NOTE

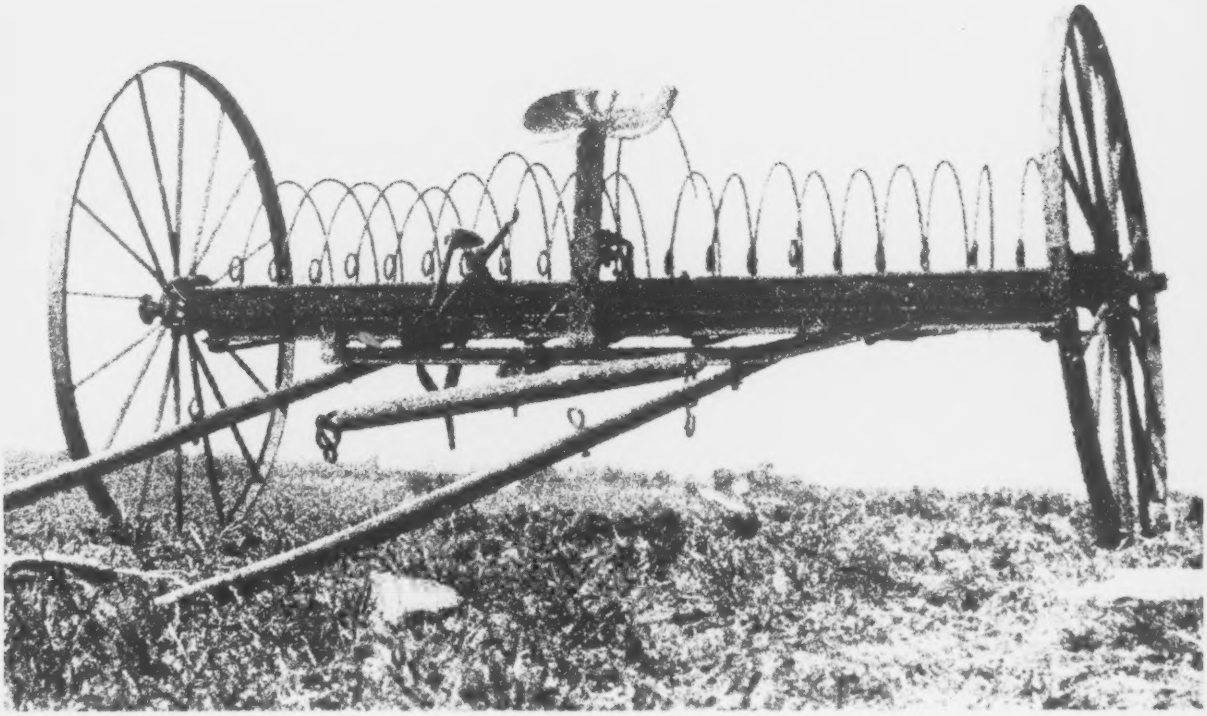
This Microfiche meets the quality requirements of the American National Standard for Microfiche of Documents (ANSI PH5.9-1975). However, because of imperfections in the document from which it was made, it contains images that are illegible or difficult to read. The source document for this microfiche is the best copy that could be obtained prior to filming.

CIS Congressional Information Service, Inc.
Washington, D.C.

CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

JUNE 1988

The Outlook for Farm Commodity Program Spending, Fiscal Years 1988-1993



A SPECIAL STUDY

J932-20

THE OUTLOOK FOR FARM COMMODITY PROGRAM SPENDING, FISCAL YEARS 1988-1993

The Congress of the United States
Congresssional Budget Office

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, DC 20402

NOTES

All years are fiscal years, unless otherwise noted.

Details in the text and tables of this study may not add to totals because of rounding.

A crop year (or marketing year) is the 12-month period beginning around the time of harvest. Crop years for major crops are:

Corn--September through August
Wheat--June through May
Rice--August through July
Cotton--August through July
Soybeans--September through August

Crop years are identified by the year in which they begin. For example, the 1988 corn crop year extends from September 1988 through August 1989. The dairy marketing year coincides with the fiscal year and is identified similarly--the 1988 dairy marketing year extends from October 1987 through September 1988.

Units of measure used for commodities in this study are:

Corn--one bushel = 56 pounds
Wheat--one bushel = 60 pounds
Rice--one hundredweight (cwt) = 100 pounds
Cotton--one bale = 480 pounds
Soybeans--one bushel = 60 pounds

Dairy product use and Commodity Credit Corporation net purchases are measured in pounds of milk equivalent, milkfat basis.

Cover photograph by Theodor Jung, 1936, courtesy of Prints and Photographs, Library of Congress.

PREFACE

Commodity Credit Corporation (CCC) farm price and income support program outlays have varied widely from year to year, depending as they do on such factors as the weather, agriculture and trade policies, the administration of U.S. farm programs, and conditions in worldwide commodity markets. This study provides detailed information about CCC outlays included in the Congressional Budget Office's (CBO) most recent budget outlook. CBO's budget outlook is part of its annual report to the Committees on the Budget, which is required by law, and includes five-year outlay projections for the entire federal budget. This closer look at CCC outlays was requested by the Senate Budget and Agriculture Committees to provide further information on the assumptions underlying the current baseline. In accordance with CBO's mandate to provide objective and impartial analysis, the report contains no recommendations.

The information in this study was prepared jointly by the Natural Resources and Commerce Division (NRCD) and the Budget Analysis Division (BAD) of CBO, under the supervision of Everett M. Ehrlich (for NRCD) and Robert A. Sunshine (for BAD). Roger E. Hitchner coordinated the study. Portions of the report were written by Roger E. Hitchner, Hsin-Hui Hsu, Eileen M. Manfredi, Andrew S. Morton, and David D. Trechter. Kathy A. Ruffing, Trevor Alleyne, and Stephen A. Parker of CBO and several outside reviewers provided valuable comments. Amanda Balestrieri edited the manuscript. Angela McCollough prepared the early drafts of the report. Nancy H. Brooks and Kathryn Quattrone prepared the final draft for publication.

James L. Blum
Acting Director

June 1988

CONTENTS

SUMMARY xi

I AN OVERVIEW OF COMMODITY CREDIT CORPORATION OUTLAY PROJECTIONS 1

The Current Farm Law *3*
The CCC and the Budget *8*
Comparison with Administration Estimates *14*

II CONCEPTS AND ASSUMPTIONS UNDERLYING THE CBO BASELINE 17

Price and Income Support Policies *17*
The Economic Environment *18*
The Role of Secretarial Discretion *21*
Production and Market Factors *30*
Minor Crop Programs and Other Expense Categories *33*

III THE OUTLOOK FOR MAJOR COMMODITIES 35

Corn *36*
Wheat *43*
Rice *48*
Cotton *51*
Soybeans *56*
Dairy *59*
Land Use *62*

IV CHANGING THE BASELINE ASSUMPTIONS 65

Example of a Supply Shock: A Summer 1988 Corn Belt Drought *66*

Example of a Demand Shift:
Changes in Export Demand 75

APPENDIX World Trade Assumptions for
Supported Farm Commodities 87

GLOSSARY 95

TABLES

S-1. Commodity Credit Corporation Outlays xii

S-2. Summary of Projected Supply and Use of Major Supported Commodities xv

S-3. Changes in CCC Outlays Resulting from a Summer 1988 Drought Reducing Corn and Soybean Production xviii

S-4. Changes in CCC Outlays Resulting from Higher and Lower Export Paths xix

1. Commodity Credit Corporation Outlays 2

2. CCC Outlays Adjusted for Differences Between Generic Commodity Certificate Issuances and Redemptions 12

3. Comparison of USDA Current Services and CBO Projections for CCC Outlays 15

4. The Range of Secretarial Discretion in Determining Loan Rates in CCC Price and Income Support Programs 26

5. Issuances of Generic Commodity Certificates 28

6. Corn Supply and Use 38

7. Corn and Feed Grain Program Outlays 42

8. Wheat Supply and Use 45

9. Wheat Program Outlays 47

10. Rice Supply and Use 49

11. Rice Program Outlays 51

12.	Upland Cotton Supply and Use	53
13.	Upland Cotton Program Outlays	55
14.	Soybean Supply and Use	57
15.	Soybean Program Outlays	59
16.	Dairy Supply and Use, and Dairy Program Outlays	60
17.	Changes in CCC Outlays Resulting from a Summer 1988 Drought Reducing Corn and Soybean Production	70
18.	Changes in CCC Outlays Resulting from Higher and Lower Export Paths	79
19.	Comparison of High and Low Export Paths for Corn	80
20.	Comparison of High and Low Export Paths for Wheat	81
21.	Comparison of High and Low Export Paths for Rice	82
22.	Comparison of High and Low Export Paths for Cotton	83
23.	Comparison of High and Low Export Paths for Soybeans	84
A-1.	World Corn Trade Assumptions in the CBO Baseline	88
A-2.	World Wheat Trade Assumptions in the CBO Baseline	89
A-3.	World Milled Rice Trade Assumptions in the CBO Baseline	90

A-4. World Cotton Trade Assumptions in the CBO Baseline 91

A-5. World Soybean Trade Assumptions (Excluding Meal and Oil) in the CBO Baseline 92

A-6. World Soybean Meal Trade Assumptions in the CBO Baseline 93

A-7. World Soybean Oil Trade Assumptions in the CBO Baseline 94

FIGURES

1. Commodity Credit Corporation Outlays 4

2. Program Crop Acreage 63

3. Corn and Soybean Yields per Harvested Acre 67

4. Comparison of High and Low Export Paths for Corn, Wheat, Rice, Cotton, and Soybeans 76

BOXES

1. Major Farm Program Tools 6

2. Calculating Deficiency Payments 9

3. Federal Support for Agriculture 11

4. Important Concepts in the Supply, Use, and Outlay Tables 39

SUMMARY

During the 1980s, federal spending for agriculture and, in particular, outlays of the Commodity Credit Corporation (CCC) have been high, volatile, and difficult to forecast accurately. Few portions of the federal budget grew more rapidly during this period. And, if current Congressional Budget Office (CBO) projections hold, spending in few portions of the federal budget will fall as much as CCC outlays over the next five years.

CBO projects that outlays of the Department of Agriculture's price and income support programs will fall from $22.3 billion in 1987 to $17 billion in 1988, remain at about that level for the following two years, then resume a decline, reaching $11.8 billion by 1993 (see Summary Table 1).1/ Market conditions in all the major supported crops--feed grains, wheat, rice, cotton, and soybeans--are projected to improve over the period. CBO currently expects government-owned stocks to fall to reasonable levels, market prices to rise, and export demand to increase.

In addition to improvements in general market conditions, lower projected farm program outlays stem from declining support levels, particularly target prices, in the farm programs. CBO assumes that target prices--important determinants of direct payments to farmers--will continue to decline past 1990, the year in which the current farm law expires.

The commodity programs of the CCC are designed to support farm incomes and stabilize prices of agricultural commodities. These programs are entitlements; spending is determined by program rules set by law and regulation rather than being directly controlled by appropriations or limitations on Treasury borrowing. As a result, CCC spending may vary widely from year to year. If strong demand or short supplies cause high prices for a commodity, the farm program

---

1. Outlay projections in this report are contained in the February 1988 Congressional Budget Office budget baseline.

offers little or no additional support and federal costs are low. Alternatively, if poor demand or excess supplies cause low prices, farm programs take up some of the slack, and federal costs tend to be high.

THE ASSUMPTIONS BEHIND THE BASELINE PROJECTIONS

The workings of the farm programs require that a broad range of assumptions be made when projecting future spending. Categories of assumptions underlying the CBO baseline projections are:

- Legislative. The CBO baseline is designed to project spending with no changes in the law, and is used to measure the effects of proposed legislative changes. Accordingly, current law is assumed to be in place throughout the projection period (1988 through 1993). In fact, current legislation governing most farm programs expires in 1990. The CCC outlay

SUMMARY TABLE 1. COMMODITY CREDIT CORPORATION OUTLAYS
(By fiscal year, in millions of dollars)

Commodity	1987 Actual	Projected					
		1988	1989	1990	1991	1992	1993
Corn and Other Feed Grains	13,967	13,132	11,946	12,125	10,696	8,745	8,098
Wheat	2,836	990	1,660	1,436	1,263	1,059	900
Rice	906	233	301	528	521	490	485
Upland Cotton	1,786	397	429	372	236	220	165
Soybeans	-476	-1,215	-267	-38	-18	4	4
Other Commodities	917	940	763	455	644	602	614
Subtotal	19,936	14,477	14,833	14,878	13,343	11,120	10,265
Other Outlays	2,320	2,555	2,518	2,144	1,932	1,657	1,579
Total	22,256	17,032	17,351	17,022	15,275	12,777	11,844

SOURCE: Congressional Budget Office, February 1988 projections.

baseline assumes that the current farm law is extended beyond its expiration.

- General Economic Conditions. Market conditions for agricultural products and, thus, CCC outlays are affected by domestic and international economic conditions. Income growth here and abroad, the inflation rate, and the value of the dollar all affect domestic and foreign demand for U.S. production, market prices, and CCC outlays. Economic assumptions underlying the CCC outlay baseline are discussed in detail in CBO's annual report.[2] Generally, CBO forecasts modest growth for the U.S. economy, a continued declining value of the dollar, and relatively strong income growth in developing countries that trade with the United States. This outlook is generally good for U.S. agriculture.

- Trade and Agricultural Policies of Other Nations. The baseline assumes no major changes in the trade or farm policies of foreign customers or competitors of the United States. Members of the General Agreement on Tariffs and Trade (GATT) are now conducting talks that may eventually affect agricultural and trade policies of member countries, including the United States.[3] Moreover, bilateral negotiations or unilateral actions by other countries may lead to changes in the trading environment that would affect the outlook for U.S. exports and CCC outlays. This baseline assumes no such changes.

- Secretarial Discretion. The Secretary of Agriculture has broad discretion to set certain parameters of farm programs. For instance, the Secretary determines the size of unpaid acreage reduction programs within bounds provided in the law, whether or not paid acreage diversion programs will be offered, and how quickly government stocks are released to the market. The strategy used by the Secretary can have a major influence on prices for some crops and, thus, on future CCC outlays. CBO assumes that programs will seek to maintain relatively low, competitive prices in domestic and international markets, and that government stocks will be reduced fairly quickly by restraining production through acreage control programs and satisfying some market demand by "selling" CCC stocks (mostly through exchanges for generic commodity certificates).

---

[2] Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1989-1993* (February 1988).

[3] For a discussion of agricultural trade issues being addressed in the negotiations, see Congressional Budget Office, *The GATT Negotiations and U.S. Trade Policy* (June 1987).

o Market Conditions for Supported Commodities. Program parameters (such as target prices and nonrecourse loan rates), levels of farmer participation in government programs, production, domestic use, exports, government and market stocks, and market prices for supported commodities collectively determine federal outlays in crop programs. For all supported commodities, these factors are influenced by the legislative, administrative, and general economic environments assumed to exist during the projection period. Each supported crop is distinct, however, in that government programs differ, initial stock conditions vary, and sources of demand grow at different rates.

OUTLOOK FOR THE MAJOR COMMODITIES

Generally, CBO projects improving market conditions for all the supported crops over the 1988-1993 period. Summary Table 2 shows projected supply, use, and prices for major supported commodities. Exports rebound from the poor performance of the recent past and stocks fall. Paid and unpaid annual acreage reduction programs are generally reduced as export demand grows and excess stocks decline.

Corn, which now has the highest level of excess stocks, requires the longest period of adjustment to bring stocks down to reasonable levels. Projected market prices remain low throughout the projection period, unpaid acreage reduction programs are at maximum levels, and paid land diversion is maintained through 1992. Constraining production and encouraging domestic and export use by keeping prices low allow stocks to drop by a average of 400 million bushels per year

SUMMARY TABLE 2. SUMMARY OF PROJECTED SUPPLY AND USE OF MAJOR SUPPORTED COMMODITIES (By crop year)

	1987	1988	1989	1990	1991	1992	1993
Corn (In billions of bushels)							
Production	7.06	7.33	7.30	7.31	7.46	7.91	8.37
Exports	1.70	1.75	1.83	1.89	1.94	1.99	2.05
Total Use	7.83	7.66	7.63	7.77	7.97	8.16	8.34
Ending Stocks	4.12	3.79	3.47	3.01	2.50	2.26	2.29
Price (Dollars per bushel)	1.75	1.78	1.67	1.68	1.72	1.73	1.72
Wheat (In billions of bushels)							
Production	2.11	2.14	2.22	2.33	2.51	2.60	2.66
Exports	1.50	1.35	1.40	1.44	1.47	1.51	1.52
Total Use	2.61	2.41	2.43	2.48	2.53	2.60	2.63
Ending Stocks	1.33	1.07	0.87	0.73	0.73	0.75	0.79
Price (Dollars per bushel)	2.58	2.70	2.78	2.85	2.90	2.93	2.98
Rice (In millions of cwt)							
Production	126.8	163.4	168.6	170.2	172.8	181.7	192.0
Exports	79.0	77.5	80.0	82.5	84.5	87.0	89.5
Total Use	157.8	159.3	165.7	172.3	178.7	186.0	193.2
Ending Stocks	23.3	30.0	35.5	36.1	32.8	31.1	32.4
Price (Dollars per cwt)	7.50	8.75	6.56	6.63	6.69	6.75	6.81
Cotton (In millions of bales)							
Production	14.3	14.3	14.4	14.3	14.5	14.7	15.0
Exports	6.9	6.5	6.6	6.7	6.8	6.9	7.1
Total Use	14.7	14.0	14.1	14.3	14.5	14.7	14.9
Ending Stocks	4.8	5.3	5.7	5.8	5.9	6.0	6.2
Price (Dollars per pound)	0.621	0.594	0.607	0.612	0.628	0.644	0.649
Soybeans (In billions of bushels)							
Production	1.91	1.97	2.03	2.05	2.08	2.10	2.10
Exports	0.76	0.75	0.75	0.76	0.77	0.78	0.78
Total Use	2.05	2.02	2.03	2.05	2.09	2.10	2.10
Ending Stocks	0.29	0.25	0.24	0.24	0.24	0.23	0.22
Price (Dollars per bushel)	5.50	5.78	5.83	5.89	5.69	5.73	5.92
Dairy Products (In billions of pounds)							
Production	141.9	144.6	145.9	146.4	149.2	151.5	153.9
Commercial Use	136.4	138.5	141.2	143.5	145.9	148.3	150.8
CCC Removals a/	5.2	6.2	4.9	3.1	3.4	3.3	3.3
Price Support b/ (Dollars per cwt)	11.35	10.60	10.10	9.60	9.60	9.60	9.60

SOURCE: Congressional Budget Office, February 1988 projections.
NOTE: cwt = hundredweight.

a. Removals refer to net government purchases of dairy products for the purpose of supporting the farm price of milk.

b. Price support in effect for the twelve months following January 1 of each year.

through 1992, when ending stocks (stocks at the end of the crop year) reach what is considered a reasonable level of about 2.3 billion bushels. Feed grains (mostly corn) account for about two-thirds of CCC outlays, as shown in Summary Table 1.

Wheat is in a somewhat better situation than corn. An export surge during the 1987 crop year and continued relatively strong export demand brings projected stocks to under 1 billion bushels by the end of the 1989 crop year. Relatively low excess stocks and growth in demand, as well as additional wheat land entering the conservation reserve program, allows acreage reduction programs to be relaxed and prices to rise gradually. By 1993, the acreage reduction program is assumed to be only 7.5 percent of base acreage, compared with 27.5 percent in 1988. Market prices will rise to about $3.00 per bushel from about $2.60 this year.

Cotton and rice both have seen sharp declines in stock levels since the 1985 farm bill provisions, including marketing loans, became effective. Market prices in both crops are projected to remain above nonrecourse loan rates during the projection period. Marketing loans in these crops could potentially be the cause of large federal costs if market prices weaken. But, given current CBO projections, the cost of the marketing loan programs will be small.

Projected soybean market prices remain well above nonrecourse loan rates during the projection period. Large net receipts are projected for 1988 as most of the remaining government stocks are sold. Barring a substantial weakening of prices, the soybean program will have little or no effect on CCC outlays in later years.

Dairy program spending is dominated by domestic supply and use factors and the federal price support level. In the CBO baseline, price support levels for milk are assumed to fall by $0.50 per hundredweight for the next two years. These price reductions are needed to reduce incentives to increase milk production, and to encourage consumption, thus bringing CCC purchases of surplus milk below levels set in the law that would require further reductions in price supports.

CHANGING THE BASELINE ASSUMPTIONS

Projected outlays would change if any of the assumptions underlying the baseline were altered. An assumed domestic drought is used to illustrate how outlays could be affected by a production shortfall in one year. Alternative export paths for major crops are used to show the longer-term effects of more and less optimistic U.S. trade prospects than are assumed in the baseline.

The hypothetical drought, which is assumed to lower 1988 crop corn and soybean yields to 15 percent below baseline levels, reduces total CCC outlays by an estimated $2.5 billion to $2.8 billion during 1988 and 1989 (see Summary Table 3). Over the 1988-1993 period, estimated outlays are reduced from $2.1 billion to $4.4 billion. The magnitude of the effect of this assumed drought depends on how the Secretary of Agriculture responds. This analysis assumes that the Secretary would use the drought-induced shortfall in corn production as an opportunity to unload excess government stocks quickly.

CCC outlays fall in the early years mostly because of the assumed sales of CCC-owned grain (through generic commodity certificate exchanges) and because 1988 crop deficiency payments that are made in 1989 and 1990 fall when market prices rise. Outlays rise in later years because acreage control programs are relaxed, causing increases in the amount of production on which deficiency payments are made. Releasing stocks moderates the market price rise that would otherwise occur during a drought year. As shown in Summary Table 3, the more excess stocks are released during the drought year, the smaller is the estimated reduction in CCC outlays over the entire period.

Assuming higher exports than in the baseline reduces projected CCC outlays by $17 billion from 1988 through 1993, about 18.7 percent of total CCC spending over this period (see Summary Table 4). Estimated savings depend on how much assumed exports increase--in this case, assumed total exports of corn, wheat, cotton, and rice over the 1988-1993 period are 10 percent to 15 percent higher than the baseline, and total soybean exports are assumed to be 23 percent above baseline levels. But, as in the drought case, the effect of higher exports on outlays depends critically on how the Secretary of Agriculture responds to changing conditions. In this instance, the Secretary is assumed to consider a higher level of market prices to be competitive and the increase in demand is assumed to be accommodated only partially by allowing greater production (by relaxing acreage reduction requirements of crop programs). Rising market prices reduce deficiency payment rates. Total production on which payments are made may increase, but the decrease in the payment rate is enough to cause overall outlays to decline.

SUMMARY TABLE 3. CHANGES IN CCC OUTLAYS RESULTING FROM A SUMMER 1988 DROUGHT REDUCING CORN AND SOYBEAN PRODUCTION (By fiscal year, in billions of dollars)

	1988	1989	1990	1991	1992	1993	Cumulative Six-Year Change
				Alternative 1			
Prices Held at Baseline Levels by Releasing CCC Stock	a/	-2.8	-0.5	b/	0.7	0.5	-2.1
				Alternative 2			
Less Grain Released, Allowing $0.25 per Bushel Price Rise	a/	-2.8	-1.8	-0.3	0.6	0.5	-3.9
				Alternative 3			
Even Less Grain Released, Allowing $0.50 per Bushel Price Rise	a/	-2.5	-2.8	-0.3	0.6	0.6	-4.4

SOURCE: Congressional Budget Office estimates.

a. Some of the outlay reductions shown in fiscal year 1989 would occur during the last months of fiscal year 1988 as the markets became aware of the extent of the drought and its implications for production.

b. Less than $50 million.

In the lower export case, estimated outlays rise by $7.5 billion, or 8.2 percent of the total, over the 1988-1993 period. Again, the estimated effect of lower demand depends upon the extent of the demand shift and how the Secretary of Agriculture responds. In this case, the Secretary is assumed to consider a somewhat lower level of market prices to be competitive, given the lower demand. Production is con-

SUMMARY TABLE 4. CHANGES IN CCC OUTLAYS RESULTING FROM HIGHER AND LOWER EXPORT PATHS
(By fiscal year, in millions of dollars)

	1988	1989	1990	1991	1992	1993	Six-Year Total
				CBO Baseline			
Total CCC Outlays	17,032	17,351	17,022	15,275	12,777	11,844	91,301
				High Export Path			
Change in Outlays for:							
Corn and Other Feed Grains	0	-943	-1,887	-2,210	-2,044	-2,677	-9,761
Wheat	-41	-1,436	-1,609	24	-208	-772	-4,042
Rice	0	-8	-94	-422	-520	-578	-1,622
Cotton	0	-358	-353	-325	-224	-116	-1,376
Soybeans	0	-168	-68	-92	20	20	-288
Total Change	-41	-2,913	-4,011	-3,025	-2,976	-4,123	-17,089
Total CCC Outlays	16,991	14,438	13,011	12,250	9,801	7,721	74,212
				Low Export Path			
Change in Outlays for:							
Corn and Other Feed Grains	0	138	507	1,055	1,840	1,511	5,051
Wheat	0	287	112	116	308	270	1,093
Rice	0	43	47	70	72	12	244
Cotton	0	23	66	223	290	474	1,076
Soybeans	0	0	0	0	0	0	0
Total Change	0	491	732	1,464	2,510	2,267	7,464
Total CCC Outlays	17,032	17,842	17,754	16,739	15,287	14,111	98,765

SOURCE: Congressional Budget Office estimates and February 1988 projections.

strained by higher acreage reduction programs, but not by as much as the fall in export demand, leading to lower prices and higher outlays.

How the farm programs are adjusted to changing market conditions influences how outlays are affected. The increase in export demand could lead to higher rather than lower outlays if acreage reduction programs are reduced to accommodate fully the change in demand. Likewise, reductions in demand could lead to lower rather than higher outlays if acreage reduction program requirements are raised so that production falls by as much as demand.

CHAPTER I

AN OVERVIEW OF COMMODITY CREDIT CORPORATION OUTLAY PROJECTIONS

The worst appears to be over for federal agricultural price and income support program spending. From a peak of $25.7 billion in 1986, outlays of the Commodity Credit Corporation (CCC)--the U.S. Department of Agriculture (USDA) agency that finances price and income stabilization and support programs--fell to $22.3 billion in 1987. Under current law, the Congressional Budget Office (CBO) projects these outlays will fall further to $17 billion in 1988, remain near that level for the following two years, and then decline further, reaching $11.8 billion by 1993 (see Table 1).[1] This study examines trends and uncertainties in the CBO baseline for CCC programs.

The general downward trend in projected outlays by the CCC is caused by a combination of declining support levels found in current law and improved commodity market conditions. The outlook for commodity markets is buoyed by continuing economic growth here and abroad, and by declines in the value of the dollar. As a result, export demand improves and commodity stocks are brought down from their recent burdensome peaks.

Outlays stabilize during the 1988-1990 period. This plateau results, in part, from the CCC's disposing of excess stocks acquired through price support programs in earlier years. Outlays in 1988 and 1989 would be higher and the long-term downward trend smoother if excess government stocks were not available to sell during those years. For example, the CCC is projected to sell soybeans worth about $1.4 billion during this time, completely eliminating government soybean stocks. Most of these stocks were acquired through price support operations in 1986 and 1987. Thus, better markets and lower price support levels are allowing the CCC to recover some of its earlier spending. Release of government corn and wheat stocks by exchanging them for generic commodity certificates also has the effect of lowering outlays. If current demand had been accommodated by smaller acreage reduction programs, rather than by releasing stocks, outlays would have been higher. The sharp decline in outlays from 1987 to 1988 has also been aided by adverse weather conditions abroad that have led to relatively heavy foreign demand for U.S. crops during the current marketing year.

---

[1] Estimates are in current dollars unless otherwise noted. Wool program outlays, which appear in a separate budget account, are excluded.

TABLE 1. COMMODITY CREDIT CORPORATION OUTLAYS
(By fiscal year, in millions of dollars)

Commodity	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
Corn and Other Feed Grains	13,967	13,132	11,946	12,125	10,696	8,745	8,098
Wheat	2,836	990	1,660	1,436	1,263	1,059	900
Rice	906	233	301	528	521	490	485
Upland Cotton	1,786	397	429	372	236	220	165
Soybeans	-476	-1,215	-267	-38	-18	4	4
Peanuts	8	8	0	0	1	1	1
Tobacco	-346	-433	-323	-298	-48	5	30
Honey	73	70	56	44	37	33	33
Sugar	-65	-14	0	0	0	0	0
Dairy	1,166	1,228	950	631	574	485	472
Other Commodities	81	81	80	78	80	78	78
Subtotal	19,936	14,477	14,833	14,878	13,343	11,120	10,265
Export Guarantee Claims	373	520	560	535	465	395	395
Direct Export Loans	-103	-116	-32	-45	-43	-53	-55
Storage Facility Loans	-109	-65	0	0	0	0	0
Operating Expenses	541	577	592	592	593	594	594
Working Capital Change	-745	600	0	0	0	0	0
Other Costs	1,144	163	202	265	228	150	150
Interest Payments	1,485	1,276	1,636	1,247	1,164	1,071	1,020
Interest Receipts	-266	-400	-440	-450	-475	-500	-525
Total Outlays	22,256	17,032	17,351	17,022	15,275	12,777	11,844

SOURCE: Congressional Budget Office, February 1988 projections.

The CCC budget attracts attention each year because it has grown rapidly during the 1980s (not long ago it would have been unthinkable to spend more than $20 billion annually on these programs). This growth has made the CCC an appealing target for budget cuts. Furthermore, CCC outlays are difficult to predict and have been subject to wide swings from year to year. CCC is an entitlement that, more than any other sizable federal program, is affected by external and unpredictable factors such as the weather, international market conditions, and the trade policies of other nations. Such factors have affected the accuracy of forecasts for CCC outlays during the 1980s. From 1980 to 1987, a period when CCC outlays averaged $13.7 billion per year, the average error of CBO year-ahead forecasts caused by incorrectly anticipating administrative program decisions and weather and market conditions was $4.3 billion.2/ Outlays were underestimated in six of the eight years, with the underestimates being quite large in some years.3/

Outlays, both actual and projected, are affected by the content of the farm programs, how they are run, and how farmers respond, as well as by the commodity market and general economic conditions. Accordingly, this study describes the assumptions used to prepare CBO's February 1988 baseline and demonstrates the effects of different assumptions.

THE CURRENT FARM LAW

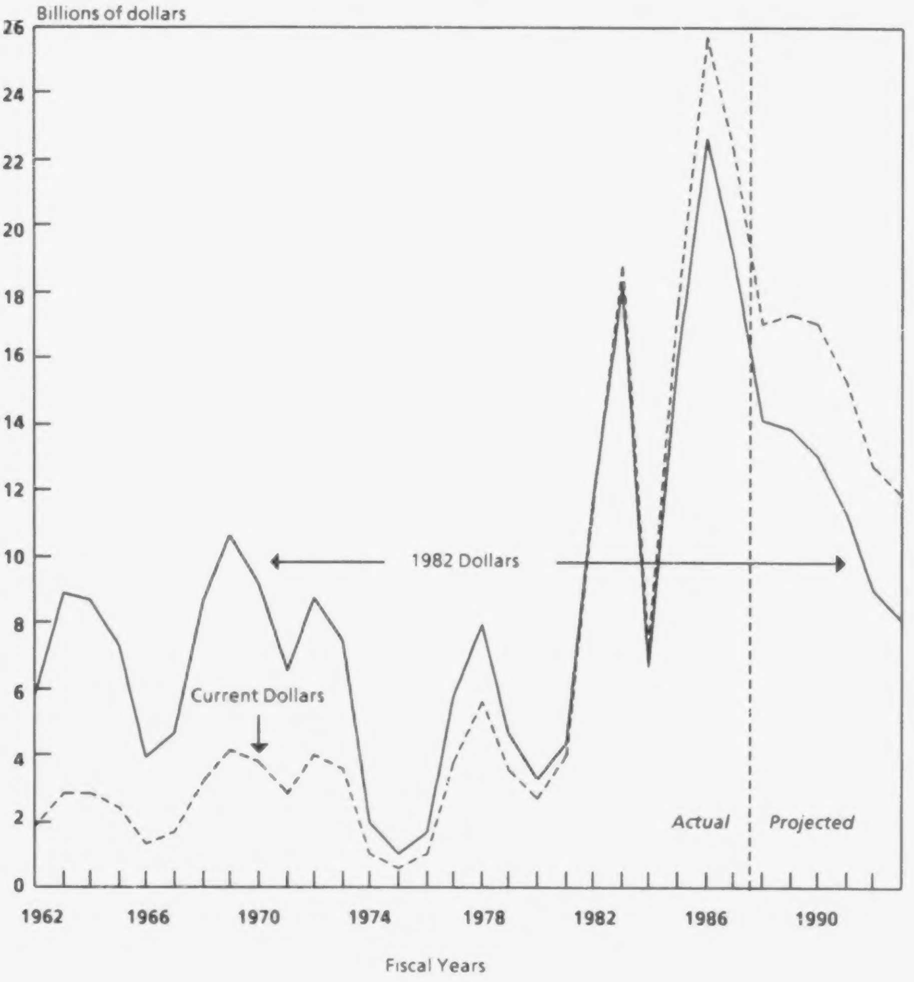
CCC spending is high by historical standards (see Figure 1). Annual outlays averaged about $2.6 billion during the 1960s, with a peak of $4.2 billion in 1969. The average for the 1970s was $3.0 billion with a peak of $5.6 billion in 1978. The spectacular rise in program outlays began in the early 1980s. Weakening world economic conditions,

---

2. Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1989-1993* (February 1988). Year-ahead forecasts are usually prepared in January for the fiscal year beginning the following October.

3. For a review of the accuracy of the Administration's projections of Commodity Credit Corporation spending, see General Accounting Office, *USDA's Commodity Programs: The Accuracy of Budget Forecasts, GAO/PEMD-88-8* (April 1988).

Figure 1.
Commodity Credit Corporation Outlays



SOURCE: U.S. Department of Agriculture historical data and Congressional Budget Office projections.

foreign debt problems, the rising value of the dollar, inflexible U.S. price support levels, good crops in some years, and USDA program choices that may have under- or overreacted to events led to costly accumulation of stocks and relatively high direct payments to farmers in several years.

Even when adjusted for inflation, recent and projected CCC outlays are significantly higher than during the 1960s and 1970s. Only by the 1990s do projected real outlays fall to levels seen in 1969 and 1970.

These sizable agricultural expenditures and the programs that generate them are now governed by the Food Security Act of 1985. The major tools of current programs are briefly described in Box 1. (Further definitions of special terms associated with the farm programs can be found in the Glossary.) The Food Security Act has proven to be expensive because it dropped or eliminated market price supports, yet simultaneously maintained high target prices, which almost guaranteed large direct payments to producers (since these payments are based on the differences between target and market prices). Price supports (nonrecourse loan rates) for feed grains (corn, sorghum, barley, and oats), wheat, and soybeans were significantly lowered--1986 crop corn and wheat price supports were about 25 percent below their level in 1985, and the soybean price support was reduced 5 percent.4/ Those for cotton and rice were effectively eliminated with the introduction of marketing loan programs for these crops. These reductions were in response to sharp declines in U.S. exports during the early 1980s. Many industry observers blame relatively high market price supports (coupled with the rising value of the dollar) for this fall in agricultural exports.

The act also sought to maintain farm income during a time of economic crisis within agriculture, and kept target prices relatively high. Target prices are now declining each year; the 1988 and 1989 levels were dropped below those specified in the original bill as a budget-cutting measure of the 1987 Omnibus Budget Reconciliation

---

4. CCC program outlays for feed grains (corn, sorghum, barley, and oats) are dominated by the corn program. The outlook for feed grains other than corn is not discussed separately in this study.

Act. They remain substantially above both nonrecourse loan rates and expected market prices, however, leading to relatively large direct program payments.

Moreover, the Food Security Act addressed the need to eliminate accumulated surplus commodity stocks by allowing relatively large annual acreage reduction programs and establishing a conservation

BOX 1
MAJOR FARM PROGRAM TOOLS

The main objectives of the Commodity Credit Corporation programs are to support the incomes of farmers, stabilize prices of farm commodities, and encourage U.S. agricultural exports. The primary tools used are deficiency payments, market price supports (nonrecourse loans and direct purchases), marketing loans, reductions in planted acreage, and export subsidies.

Deficiency Payments. Deficiency payments are direct federal payments to producers that participate in CCC programs for feed grains, wheat, rice, and cotton. Deficiency payments are generally calculated as the difference between the crop's *target price* (specified in the law) and the higher of the market price or the nonrecourse loan rate and are paid according to the producer's program yield multiplied by the number of acres planted to the crop. *Program yield* is predetermined for each farm, since it is based on an average of past yields; the number of acres planted to the crop cannot exceed the producer's *base acreage* for that crop less any land idled through acreage reduction or paid land diversion programs. The $50,000 payments limitation may constrain deficiency payments paid to large farming concerns.

Deficiency payments are direct income supplements but, because CCC programs normally require some land to be taken out of production without payment, some portion of these payments may be regarded as compensation for reducing production. Deficiency payments are also viewed by some as production subsidies that may encourage farmers to plant more of a crop than they would if only returns from the market sales were being considered.

Market Price Supports. To support market prices in the feed grains, wheat, and soybean programs, *nonrecourse loans* are used. Participating producers may pledge all or part of their crop as collateral for a CCC loan. The gross amount of the loan equals the product of the amount of the crop pledged and the nonrecourse loan rate, which varies by crop and by year. Nonrecourse loans support the market price at or around the nonrecourse loan rate because producers have the option of forfeiting the loan collateral to the CCC if the market price is not high enough to make it profitable for them to repay the loan and sell the crop. Producers benefit from nonrecourse loans because they are assured a minimum price for their crop, they receive credit at subsidized rates, and these loans allow them to market their crops at the most profitable time.

Direct government purchase is another method used to support market prices. The direct purchase of dairy products (cheese, butter, and nonfat dry milk) is the CCC's method of supporting the farm price of milk. The government may also make direct purchases of other farm commodities but the nonrecourse loan is the primary form of price support for crops--the CCC acquires these crops when farmers forfeit their collateral rather than repay nonrecourse loans. These acquisitions affect market prices in much the same way as direct purchases.

Marketing Loans. Producers in the cotton, rice, and honey marketing loan programs may repay their nonrecourse loans at per-unit rates based on world market prices (which may be less than the nonrecourse loan rates at which the loans were issued). Marketing loans allow market prices to be determined by world supply and demand conditions rather than domestic nonrecourse loan reserve designed to remove 40 million to 45 million acres of highly erodible farmland from production. Direct program payments would be higher than now projected and excess stocks more difficult to control had these programs to reduce planting not been authorized.

The act sought to reduce accumulating dairy surpluses and the high cost of the dairy program by instituting the dairy herd termina-

BOX 1
(Continued)

rates, making these commodities more competitive on world markets. The per-unit benefit to farmers--the difference between the nonrecourse loan rate and the loan repayment rate--is similar to a deficiency payment.

Reductions in Planted Acreage. To receive benefits such as deficiency payments, producers participating in CCC programs typically must reduce their plantings by devoting some portion of their acreage to a conserving use rather than planting it to the program crop. These *acreage reduction programs* are required components of crop programs, and carry no direct compensation. *Paid land diversion programs*, on the other hand, are voluntary under current law. In these paid programs, producers are directly compensated for removing some additional portion of their land from production. The purpose of both programs is to limit excess production, support market prices, and limit government costs (deficiency payments and marketing loan benefits are not paid on land idled under these two programs).

Acreage reduction and paid land diversion programs are determined annually. The *conservation reserve program* is a long-term acreage retirement program that pursues resource conservation goals but also has effects on production that are similar to those of the annual programs. Annual rental payments are made to landowners participating in the conservation reserve program.

Export Subsidies. The *export enhancement program* and federal guarantees of export loans promote exports of U.S. commodities by providing favorable prices or credit terms. The export enhancement program is fairly new (it began in 1985) and has been used mostly to encourage exports of wheat. In addition to specific export promotion programs, the marketing loan programs in cotton and rice and the reductions in nonrecourse loan rates, all included in the Food Security Act of 1985, have made U.S. commodities more competitive on world markets.

Other CCC Activities. Other activities also affect market prices and producers' returns. The *farmer-owned grain reserve program* pays farmers for storing wheat or feed grains. The farmer-owned reserve was designed to stabilize prices--grain in the reserve becomes freely available to the market only when prices rise above prescribed release prices. Farmers may now exchange generic commodity certificates for grain in the farmer-owned reserve, but incentives to do so are not strong, particularly because of the loss of the federal storage payment.

Releasing CCC-owned grain stocks through sales or exchanges for generic commodity certificates is becoming an important form of government intervention in the commodity markets. Cash sales of government-owned commodities other than soybeans and dairy products are not permitted until market prices rise well above current and expected levels. However, exchanges for generic commodity certificates, which affect market prices (and CCC outlays) very much like cash sales, are allowed under current law. These exchanges tend to reduce market prices, but are necessary to reduce government stocks to reasonable levels.

tion program, in which 1.3 million cows were slaughtered or exported, and by tying annual changes in milk price supports to levels of surplus production. Though difficult adjustments continue in the industry, the dairy program appears to be working to bring excess production under control and to contain federal dairy program costs.

THE CCC AND THE BUDGET

Outlays of the CCC that are discussed in this study are those designated by the Administration as "price support and related programs." The CCC conducts other activities involving outlays that appear as separate budget accounts. Excluded from this study are National Wool Act program payments and activities involving foreign sales and donations of commodities authorized under the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480). Also, beginning this year, cash costs of the conservation reserve program are provided in a separate appropriation, although a substantial amount of annual rental payments to landowners are assumed to be made in generic commodity certificates rather than cash. Rental payments for this program made using generic commodity certificates lead to higher outlays in the CCC account.

Outlays are those net cash transactions (gross outlays less offsetting receipts) recorded by the Treasury during a fiscal year. Outlays stemming from a program for any year's crop usually fall within several fiscal years. Deficiency payments on the 1988 corn crop, for example, are expected to be made in fiscal years 1988, 1989, and 1990--the first payment is an advance based on an estimated total payment, the second is based on actual market prices during the first five months of the crop year, and the final payment is determined using the entire year's prices (see Box 2). Most of the outlays from the nonrecourse loan program for the 1988 crop will fall in fiscal year 1989; some cash repayments may take place during the following year. Cash sales of CCC-owned stocks acquired through earlier price support programs are counted as offsetting receipts during the fiscal year in which the sales are made.

Table 1 shows projected total CCC outlays and the outlays for the separate programs. Most spending is allocated directly to particular commodity support programs, with feed grains, especially corn, taking the major share. Specific assumptions underlying the outlay projections for major commodities are discussed in Chapter III. The "noncommodity" expense categories are all associated with the CCC's price

BOX 2
CALCULATING DEFICIENCY PAYMENTS

Deficiency payments are direct federal payments that generally make up the difference between target prices, which are specified in the law, and market prices. If deficiency payment rates were calculated for each farmer based on the price received and if they were paid on actual production, then the farmer would receive the target price for the output, through a combination of market returns and government payments.

Actually, deficiency payments do not work quite in this way. Payment rates are based on *national average market prices*, so that the local market price plus the deficiency payment rate for any individual producer could be more or less than the target price. Using average prices rather than the price received by the individual farmer leaves intact individual incentives to market the crop for the highest possible price.

Also, *program production*--the product of program yield, which is based on historical yields, and acres planted within the restrictions of the acreage reduction program--is used rather than actual production to calculate deficiency payments. Program yield does not change with current production. Producers' deficiency payments are therefore unaffected if they have a bad year because of poor weather, for example, or if they choose to use more or less fertilizer or other inputs that enhance crop yields.

Deficiency payments for feed grains and wheat are of two types. The *regular* deficiency payment is calculated as the product of program production and the difference between the target price and the higher of the average price received during the *first five months of the crop year* and the *basic* (unadjusted) nonrecourse loan rate. In corn, for example, the 1988 crop target price is $2.93 per bushel and the basic loan rate (before the downward adjustment made at the discretion of the Secretary of Agriculture) is $2.21 per bushel. The regular deficiency payment rate would be $0.72 per bushel--the difference between the target price and the basic loan rate--if, as is projected, the five-month average market price is below the basic loan rate. The regular deficiency payment is subject to the payments limitation of $50,000 per person.

A second type of deficiency payment, the so-called *Findley* payment, is made if the *season average market price* is less than the basic (unadjusted) loan rate. The Findley deficiency payment rate is the difference between the basic loan rate and the higher of the season average price and the adjusted loan rate. In the corn example, the Findley deficiency payment rate would be $0.43 per bushel if the season average market price were $1.78 per bushel, as projected in the CBO baseline. These payments are not subject to the payments limitation.

Only the first type of deficiency payment is made in the cotton and rice programs. The five-month price is used to calculate the rice payment; the average price received during the preceding calendar year is used in cotton. These payments, but not the benefits of the cotton and rice marketing loan programs, are subject to the $50,000 payments limitation.

and income support activities but are not allocated to individual commodities. Box 3 describes some federal assistance for agriculture through programs other than those discussed in this report.

An Alternative Allocation of Spending among Commodity Programs

Outlays for the feed grain programs are 90 percent of total commodity program outlays in 1988 and about 80 percent in later years. Feed grains, mostly corn, have always accounted for a large share of CCC spending, being surpassed by wheat in only a few years during the past two decades. The outlay figures in Table 1, however, overstate the share of direct federal support going to feed grains because of distortions caused by the use of generic commodity certificates.

Generic commodity certificates are sometimes issued to CCC program participants instead of cash. Under the budget's cash-based accounting system, certificate issuances are not counted as outlays. However, when generic certificates are used to redeem loans, when they are exchanged for CCC stocks (and indirectly affect loan repayments), or when they are exchanged for cash, outlays are recorded. Generic certificates can be exchanged for any supported commodity, are freely traded, and therefore tend to flow toward their most profitable use. In the recent past, the most profitable use of certificates has been to redeem corn loans. Thus, certificates received by wheat, cotton, and rice farmers have been used in the corn program, causing increases in corn outlays and reductions in the other crop programs, even though the outlays originate in the other programs.

In addition, the export enhancement and targeted export assistance programs are funded only with certificate issuances, and a large part of conservation reserve program rental payments is made using certificates. These programs would appear as separate spending activities in the budget if their payments were made in cash rather than in certificates.

Table 2 shows a reallocation of CCC outlays by program activity, adjusting for the net effects of certificates that are issued in one program but cause budget outlays to occur in another. On this basis,

BOX 3
FEDERAL SUPPORT FOR AGRICULTURE

The Commodity Credit Corporation programs discussed in this report represent the bulk of federal assistance for agriculture, but numerous other federal programs directly or indirectly aid farmers and the farm sector. CCC programs fall within budget function 350, the agriculture function. Also in function 350 are the following major activities:

- Agricultural Credit. The Farmers Home Administration, through its Agricultural Credit Insurance Fund, makes direct loans and guarantees private loans to farmers primarily for operating expenses and farm real estate purchases. Outlays in 1987 in this program were $2.6 billion.

- Crop Insurance. The Federal Crop Insurance Corporation provides insurance to producers against crop losses from natural hazards, such as drought. Outlays totaled $454 million in 1987.

- Agricultural Research and Services. The U.S. Department of Agriculture, directly and through cooperative arrangements with states, conducts basic and applied agricultural research activities through the Agricultural Research Service and the Cooperative State Research Service. The Extension Service, in cooperation with states, provides educational and social services, primarily to farmers and other rural residents. The USDA also provides a variety of marketing information and inspection and grading services, some of which are partially funded through user fees. Total 1987 spending for these activities, which fall under budget subfunction 352, was $1.9 billion.

- Other Budget Function 350 Activities. Outlays stemming from the Agricultural Credit Act of 1987 will appear in function 350. Most federal aid included in this bill, which assists the Farm Credit System (FCS) with its financial difficulties, is in the form of guarantees for FCS bonds. Only direct payments to the FCS to enable it to cover interest payments on the federally guaranteed bonds will appear as federal outlays during the next five years. Outlays, which begin in 1989, are estimated at about $200 million annually.

Other federal programs affecting agriculture appear in other parts of the federal budget. Part of conservation reserve program spending is included in budget function 300, Natural Resources and Environment, as is the Soil Conservation Service, which provides technical assistance promoting land and water conservation.

Foreign food assistance programs, carried out under the Agricultural Trade and Development Act of 1954 (Public Law 480), increase exports of U.S. crops by financing sales with liberal credit terms and by directly donating commodities to countries in need of food assistance. Outlays for these programs appear in budget function 150, International Affairs.

Activities of the Food and Nutrition Service, including the Food Stamp and Child Nutrition programs, may increase domestic demand for food by directly assisting households' food purchases and by subsidizing the provision of meals to children in schools, child care facilities, and other institutions. Outlays for these activities appear in budget function 600, Income Security.

TABLE 2. CCC OUTLAYS ADJUSTED FOR DIFFERENCES BETWEEN GENERIC COMMODITY CERTIFICATE ISSUANCES AND REDEMPTIONS (By fiscal year, in millions of dollars)

Program	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
Corn and Other Feed Grains	11,190	9,280	9,248	9,015	7,781	5,985	5,469
Wheat	3,541	1,686	1,834	1,828	1,673	1,521	1,446
Rice	930	689	504	815	794	750	739
Upland Cotton	2,056	1,024	723	624	431	369	255
Soybeans	-488	-1,230	-279	-51	-30	-7	-7
Other Commodities	917	940	763	455	644	602	614
Subtotal	18,146	12,389	12,793	12,686	11,293	9,220	8,516
Ethanol Plant Assistance	29	0	0	0	0	0	0
Export Enhancement Program	643	1,200	900	800	700	600	500
Targeted Export Assistance	67	110	110	110	110	110	110
Emergency Feed Program	85	0	0	0	0	0	0
Disaster Payments	556	0	0	0	0	0	0
Conservation Reserve	410	778	1,030	1,282	1,240	1,190	1,139
Other Outlays	2,320	2,555	2,518	2,144	1,932	1,657	1,579
Total Outlays	22,256	17,032	17,351	17,022	15,275	12,777	11,844

SOURCE: Congressional Budget Office, February 1988 projections.

outlays for feed grains become $9.3 billion in 1988, rather than the $13.1 billion shown in Table 1. The difference of $3.8 billion is allocated among crop programs and other activities that generate the certificates. This program level allocation of outlays is a more informative way of looking at federal spending for crop programs than a strict cash accounting system.5/

---

5. Federal spending for a commodity is not an accurate way of measuring the absolute or relative federal support for the crop or its producers. The sugar program, for example, is designed to have no net outlays during a fiscal year. But federal support for producers, which comes from maintaining high domestic prices by controlling imports, is substantial.

Noncommodity Program Spending

Major components of CCC spending other than that directly attributed to crop programs account for about 15 percent of the total. These are briefly described below.

Export Credit Programs. The CCC currently guarantees loans that finance export sales of U.S. commodities. These programs provide protection to U.S. exporters or their assignees (typically U.S. banks) against nonpayment by foreign banks when exports are sold on a deferred-payment basis. The CCC charges fees for these guarantees. When importers or their banks default on these loans, the CCC honors the guarantee by paying to the exporter or the exporter's bank the amount of principal and interest loss covered by the guarantee. The CCC may then attempt to recover its loss from the importer.

Outlays shown on the "Export Guarantee Claims" line of Table 1 are projections of the net costs of this program, including loss payments to banks, receipts from fees, and any recovery of loss from defaulted loans taken over by the CCC.

Receipts shown in the "Direct Export Loans" line of Table 1 are projected repayments of direct loans made in past years by the CCC to finance export sales of U.S. commodities. No new loans have been made under this program since 1985.

Storage Facility Loans. These loans were made to farmers to build or remodel grain storage facilities on their farms. No new loans are expected to be made under this program. The receipts shown in Table 1 are payments by farmers on past loans.

Operating Expenses. The USDA's Agricultural Stabilization and Conservation Service (ASCS) runs most of the CCC programs; almost all of the projected outlays in this category are salaries and other expenses incurred by the ASCS in program operations.

Working Capital Change. Working capital change is used to balance outlays reported by the Treasury with apparent outlays stemming from individual program activities. CBO typically does not include an entry in this spending category in its projections. For 1988, however, $600 million was included because of a fairly large negative change in working capital reported by the USDA for 1987 (-$745 million). This allowance was made because outlays that may have been assumed to occur in 1987 in the crop programs may actually appear in 1988.

Interest Payments and Receipts. Interest payments shown are made to the Treasury and result from CCC borrowings. The CCC is authorized to borrow up to $30 billion from the Treasury to finance its activities. Annual appropriations are made to the CCC for reimbursement of past and anticipated net losses of its activities. The appropriation is typically applied to the outstanding Treasury debt, and funding needs throughout the year are met by periodically borrowing additional money from the Treasury. Since the payments are made within the government--they are outlays for the CCC but receipts for the Treasury--their magnitude does not directly affect the measured deficit. The interest rate applied to CCC borrowing is based on the government's average cost of borrowing.

Interest receipts are primarily interest payments made by farmers on nonrecourse loans. Interest rates on nonrecourse loans are periodically set based on the CCC's cost of borrowing money from the Treasury. The current interest rate is 7.25 percent.

COMPARISON WITH ADMINISTRATION ESTIMATES

The USDA's current services estimates for CCC outlays, which are prepared in a way comparable to the CBO baseline methodology, are shown in Table 3, along with the CBO baseline and the major differences between the two. The difference in funding in the conservation reserve program results from CBO's including a majority of rental payments for land retired under the program; the USDA includes most of these payments in a separate budget account. After adjusting for this funding difference, the CBO baseline is below the USDA current services projections in all years except 1990.

Most of the differences between the two sets of projections stem from different program assumptions rather than from differences in assumed future market conditions. CBO assumes that paid land diversion programs for feed grains would be continued through the 1992 crop year while the USDA assumes a paid diversion program only for the 1988 and 1989 crops. Paid diversions cost money in the first year, when the diversion payments are made, and save money in later years because less is spent on deficiency payments. In times of excess production, savings in subsequent years also stem from lower nonrecourse loan program costs (the CCC acquires less of the crop through nonrecourse loan forfeitures). In times of deficit production--when stocks are declining as is assumed in the baseline--savings in subsequent years are increased by sales of government stocks (lower current production allows the CCC to release more stocks through exchanges for generic commodity certificates). The only year when CBO projections exceed the USDA's (after adjusting for the conser-

TABLE 3. COMPARISON OF USDA CURRENT SERVICES AND CBO PROJECTIONS FOR CCC OUTLAYS
(By fiscal year, in billions of dollars)

	1988	1989	1990	1991	1992	1993	Six-Year Total
USDA Current Services a/	17.5	17.0	15.8	15.3	14.6	13.7	94.0
CBO Baseline	17.0	17.4	17.0	15.3	12.8	11.8	91.3
Conservation Reserve Program Funding Adjustment b/	0	-0.8	-0.9	-0.8	-0.7	-0.6	-3.8
Adjusted CBO Baseline	17.0	16.5	16.1	14.5	12.1	11.2	87.5
Target Price Assumption Difference	0	0	0	0.2	0.5	0.8	1.4
Feed Grain Diversion Assumption Difference	0	0	-0.6	0.2	0.9	0.9	1.4
Other Differences	0.5	0.5	0.3	0.5	1.2	0.9	3.8
Subtotal	0.5	0.5	-0.3	0.8	2.6	2.5	6.6
Total Differences c/	0.5	-0.3	-1.2	d/	1.9	1.9	2.7

SOURCE: Congressional Budget Office estimates, and Office of Management and Budget USDA Current Services from *The Budget of the United States Government, Fiscal Year 1989*.

a. Excludes wool program outlays.

b. Both agencies assume total conservation reserve program spending of around $2.5 billion annually over the 1989-1993 period; however, USDA assigns the bulk of all outlays to the CRP appropriation in Function 300 (Natural Resources and Environment), while CBO assumes that the amounts shown are paid with generic commodity certificates.

c. USDA current services less CBO baseline.

d. Less than $50 million.

vation reserve program funding difference) is 1990. The difference is largely caused by the $0.6 billion first year net costs of continuing the paid land diversion program.

CBO's assumed target prices for the 1991-1993 crops--those years following expiration of the current farm bill--also differ from those assumed by the USDA. CBO assumes that target prices will decline at a slightly higher rate. By 1993, CBO's assumed wheat target price is $0.14 per bushel below that assumed by the USDA. The corn target price is $0.08 per bushel below the USDA's assumed level for 1993; the rice target price is $0.42 per hundredweight below, and the cotton target price is $0.03 per pound below. These differences cause CBO's projections to be about $1.4 billion below the USDA's over the projections period, with all of the difference appearing in the last three years.

Remaining differences, which range from $0.3 billion in 1990 to $1.2 billion in 1992, result from different assumed market conditions and technical estimating differences.

CHAPTER II

CONCEPTS AND ASSUMPTIONS UNDERLYING THE CBO BASELINE

The Congressional Budget Office baseline shows the Congress where total spending, revenues, and the resulting deficit are headed, assuming no changes in real levels of spending in discretionary programs and no changes in tax laws or laws governing entitlement programs. For individual programs, such as the Commodity Credit Corporation price and income support programs, the baseline provides estimates of the direction and level of spending and serves as a benchmark against which the effects of alternative policies can be gauged.1/ Baseline projections for the CCC depend strongly on assumptions about the performance of the U.S. and foreign economies, other factors external to the CCC programs (such as the weather), and the actual provisions of federal programs. This chapter discusses some of the more important assumptions that underlie the CBO baseline for agricultural program spending.

PRICE AND INCOME SUPPORT POLICIES

The baseline assumes no changes in current law regarding farm programs, except to extend current policy into years for which no authorization exists. The 1985 Food Security Act is in effect through the 1990 crop year. The CBO baseline assumes that the price and income support programs of the act as amended are continued through the end of fiscal year 1993 and the 1993 crop years.

Authority for CCC activities does not actually expire after the 1990 crop years. Most CCC programs and activities are permanently authorized in the Agricultural Adjustment Act of 1938, the Commodity Credit Corporation Charter Act of 1948, and the Agricultural

---

1. CBO baseline projections for the entire federal budget are described in Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1989-1993* (February 1988).

Act of 1949. If a new farm bill were not enacted for the 1991 crops, the programs and policies of this underlying permanent legislation would be in effect. The CBO baseline assumes instead that the current farm law is extended beyond its expiration rather than reverting to the permanent legislation. It has been the practice of the Congress for many years to modify the permanent legislation by enacting multi-year amendments.

Rather than simply assuming that the programs in place for the 1990 crops are maintained through the 1993 crops--"freezing" target prices, loan rates, and acreage control programs--the intent of the Congress, as suggested by the form and directions of change of parameters in the Food Security Act, is maintained. The formulas for loan rates and the rules governing allowed discretionary changes are maintained, as are the limits on unpaid acreage reduction requirements, which do not change during the final years of the act. Minimum target prices for major crops are specifically set in law for each crop year through 1990. These prices decline each year, and the CBO baseline assumes that they continue to do so through the projection period. The rate of decline between the 1989 and 1990 crop year target prices in the Food Security Act, as enacted in 1985, is used to calculate target prices in later years.

THE ECONOMIC ENVIRONMENT

The cost of government price and income support programs and, more generally, the economic health of U.S. agriculture are affected by U.S. economic conditions through their influence on domestic use of farm products and costs of production. Also important are exchange rate movements, foreign economic conditions, and other nations' agricultural and trade policies, which influence world supply, demand, and prices for products exported by the United States. Assumptions about future directions of all these factors--some general, some specific, and many highly uncertain--underlie the CBO baseline.

The general economic conditions assumed in the CBO baseline for CCC outlays are discussed in detail in CBO's Annual Report.[2]

---

[2] Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1989-1993*.

Certain components of the CBO macroeconomic outlook are important to farm program spending projections:

- Real GNP is expected to grow 2.3 percent during 1988 and 2.6 percent during 1989, slightly below growth rates seen during the past three years. For 1990 through 1993, CBO projects annual real growth at 2.7 percent; this growth rate is based on historical trends and does not include any business cycles.

- Over the next two years, real income growth among our industrialized trading partners will be about the same as for the United States, and growth in developing countries will be somewhat higher. No changes are foreseen in other nations' agricultural or trade policies that would cause significant changes in world prices or shifts in foreign demand for U.S. commodities.

- CBO expects the value of the dollar to decline about 5 percent per year over the projection period.[3]

These key macroeconomic factors affect the CCC projections in a number of ways. Domestic economic growth influences consumer demand for food, especially for meat products. Higher demand for meat increases the number of animals placed on feed and feeding rates, which in turn raises demand for animal feeds--corn, other feed grains, and soybean meal. Apparel demand, and thus domestic mill use of cotton, also responds to changes in consumer incomes. Food grains, especially wheat, however, respond little to income changes in the United States.

Conditions in world markets also affect demand for many U.S. agricultural products. The expected growth in foreign incomes--especially in developing countries where demand for food is most constrained by low incomes--should raise world demand for food over the next several years. At the same time, the U.S. share of global exports should rebound from the low levels of the mid-1980s as competitors' supplies are dampened by relatively low world prices. Both world demand and supply conditions should be conducive to expanding U.S. agricultural exports, especially in volume terms, but prices should also increase somewhat.

---

[3] This exchange rate is measured in nominal terms relative to 10 major industrialized countries (the FRB-10 rate). A more complete exchange rate, which includes both developed and developing countries (the FRB-18), was also used in the forecast.

This favorable forecast assumes no major changes in the developing countries' debt crisis. A resolution of the debt crisis that would allow developing countries, especially Latin American countries, to expand their domestic growth and reduce trade surpluses would benefit U.S. agricultural exports in two ways. First, higher income growth in these countries would stimulate their demand for food imports, much of which could be supplied by U.S. exports. Second, these countries would have less need to expand exports to service debt, and competition from these countries with U.S. agricultural exports in other markets would therefore be reduced. A deterioration in the debt crisis, however, would have the opposite effects.

The declining value of the U.S. dollar also should stimulate world demand for food and demand for U.S. agricultural exports in particular.4/ A depreciating dollar tends to lower the foreign currency prices of U.S. agricultural commodities, as well as world prices; both these factors encourage foreign demand and discourage competitors' supplies. The lower dollar also makes U.S. nonrecourse loan rates less likely to support world prices, as they did in the early 1980s, when the U.S. dollar was appreciating.

How much U.S. agricultural exports increase over this period also depends on foreign nations' agricultural and trade policies, since imports of agricultural products in most countries are controlled to some degree by government policy. For example, the Japanese government controls most of Japan's food imports. When world prices are low, the Japanese government purchases the imports at the low prices and then sells the imported goods at much higher domestic prices. Japanese consumers do not gain from the lower prices, and thus do not increase their food demand. Similarly, variable levies in the Euro-

---

4. The dollar has not declined in value relative to all currencies. For example, the value of the dollar has not changed much relative to the currencies of two key agricultural export competitors--Canada and Australia--and it has appreciated in real terms compared with a number of Latin American currencies. It has fallen significantly, however, relative to the currencies of Japan and all European countries, and recently relative to the prospering Asian developing countries, which are important markets for U.S. agricultural exports.

pean Community keep changes in prices of some U.S. commodities from being felt by European consumers.

The United States and all its major trading partners are now engaged in negotiations to attempt to reduce and standardize governments' roles in agricultural policy worldwide.5/ These talks, the Uruguay Round of Multilateral Trade Negotiations conducted under the auspices of the General Agreement on Tariffs and Trade (GATT), may lead to significant changes in the world agricultural policy environment, but such changes are not likely to be carried out soon enough to affect the projection period in this study.

THE ROLE OF SECRETARIAL DISCRETION

Current law allows the Administration fairly broad discretion in operating price and income support programs. This flexibility lets the Secretary of Agriculture change programs as market conditions change. Restricting Secretarial discretion in a multiyear farm bill could lead to farm programs that run counter to the intent of the legislation because of the changing commodity supply and demand conditions. However, even within a given set of economic conditions, the Secretary may make choices about the operation of programs--through setting loan rates and acreage reduction programs, for example--that can lead to very different outcomes for production, prices, farm income, and government outlays.

The CBO baseline assumes that the programs will be operated with two general objectives. First, commodity market prices should be kept at competitive levels to maintain or increase the U.S. share of world markets. And second, government-owned stocks will be reduced to acceptable levels as rapidly as possible. This generally means a preference for low nonrecourse loan rates, use of relatively large acreage reduction programs when excess government stocks exist, and aggressively disposing of CCC-owned commodity stocks when market conditions allow.

---

5. See Congressional Budget Office, *The GATT Negotiations and U.S. Trade Policy* (June 1987).

Actual decisions by the Secretary must take into account many other factors, including budget costs and the effects of program decisions on farmers' incomes. These considerations are also included in the assumptions regarding program parameters in the baseline. It is assumed, however, that these considerations would not be the determining factors.

This general strategy adopted by CBO is consistent with the way the programs are now being operated by the Administration and, more important, with the apparent intent of the Congress. If a different strategy were to be adopted--for example, if more emphasis were placed on increasing current incomes of crop farmers or reducing government costs--the CBO baseline projection would be quite different.

Choices that the Secretary of Agriculture faces in specifying programs for the major field crops are discussed below. Assumptions regarding these choices must also be made in constructing the CBO baseline. CBO's choices are discussed in general terms; specific choices of program parameters (such as loan rates or acreage reduction programs for individual commodities) are described in Chapter III.

This analysis does not try to examine the full range of Secretarial discretion in operating farm programs. Very broad authority exists, even to create new programs. The export enhancement program, for example, was started by the Administration under existing authority in 1985 before it was specifically authorized in the Food Security Act. The Administration is also relying on general authority to extend this program beyond its specific legislative authorization and to exceed spending limits set in the law.

Acreage Reduction Programs

Acreage reduction programs require participating producers to devote some portion of their base acreage (that recognized by the U.S. Department of Agriculture as being normally used to produce a program crop) to a conserving use. The programs therefore restrict supply to reduce stocks and support market prices. Producers must comply with these acreage reduction requirements to be eligible for deficiency payments, nonrecourse loans, and other program benefits. Increasing the acreage reduction requirement reduces government costs by reducing the land, or production base, on which program payments are made, and by reducing the level of program participation.

The Secretary's choice of acreage reduction levels is guided or constrained by the law. Following are summaries of the range of available choices for major crops:

- Corn and Other Feed Grains. The acreage reduction level must be between 12.5 percent and 20 percent if estimated beginning stocks are greater than 2 billion bushels and cannot be greater than 12.5 percent if stocks fall below that level. Acreage reduction programs for sorghum and barley are the same as for corn. The 1987 Omnibus Budget Reconciliation Act limited the acreage reduction for oats for the 1988-1990 crops to be no greater than 5 percent of base acreage. This limitation can be waived for the 1990 crops if the Secretary determines that oat supplies are excessive.

- Wheat. The acreage reduction level must be between 20 percent and 30 percent of base acreage if estimated total stocks being carried over into the crop year exceed 1 billion bushels. The reduction level must be 20 percent or less if total stocks at the beginning of the crop year are estimated to be 1 billion bushels or less.

- Rice. The acreage reduction in the rice program cannot exceed 35 percent. The Secretary is instructed to set the reduction level to try to achieve stocks of 30 million hundredweight at the end of each year.

- Cotton. The acreage reduction in the cotton program cannot exceed 25 percent of base acreage. The Food Security Act instructs the Secretary to set the reduction level to try to achieve a stock level of 4 million bales of cotton at the end of each year.

- Soybeans. There is currently no acreage reduction program for soybeans.

The 1988 crop programs have been announced by the USDA; the CBO baseline uses these announced levels for the coming year. Beyond the 1988 crops, the baseline assumes the Secretary would choose high acreage reduction programs as long as excess stocks exist. As excess stocks are reduced, acreage reduction levels are selected to maintain stocks at mid-range levels. Acreage reduction programs are always chosen in preference to paid land diversion programs because of the budgetary costs of paid diversion.

Paid Land Diversion Programs

Paid land diversion programs are similar to acreage reduction programs in that land is removed from production of the program crop and must be devoted to a conserving use. Paid diversion differs from acreage reduction, however, in that payments are made to farmers who choose to comply and participation is not required. Farmers must comply with the acreage reduction program to receive deficiency payments and other program benefits but may choose not to join the paid diversion program. Under the paid programs, producers are typically offered a payment rate per bushel (based on program yields) for removing a portion of their base acreage from production. The Secretary could also set up a bidding process rather than offer a set rate.

Current law allows paid diversions for feed grains, wheat, rice, and cotton to be offered if the Secretary considers them necessary to achieve appropriate production goals. The 1987 Omnibus Budget Reconciliation Act requires the Secretary to offer a paid diversion program for the 1988 and 1989 crops of corn, sorghum, and barley. The 1989 requirement can be waived if the Secretary decides that it would cause too great a reduction in production of these crops.

Producers tend to prefer paid land diversion to acreage reduction programs simply because the land diversion program pays them to remove land from production, whereas the acreage reduction program does not. From the budgetary perspective, the USDA prefers acreage reduction to paid diversion and, even though it has the authority to offer paid diversion instead of acreage reduction programs, it is unlikely that it would do so. The response of farmers is a consideration when setting the levels for the two programs. In some circumstances, too high an acreage reduction requirement may discourage participation among farmers and frustrate the USDA's attempt to control production; a combination of the unpaid and paid programs may be the most effective way to reach production goals.

CBO assumes that paid land diversion programs would only be used when maximum allowable acreage reductions are not sufficient to control excess production. Because target prices are expected to be sufficiently greater than market prices over the projection period, the added inducement of a paid diversion will probably not be necessary to encourage adequate program participation.

Nonrecourse Loan Rates

Nonrecourse loan rates are subject to Secretarial discretion for feed grains, wheat, and soybeans, but not for rice and cotton. For rice and cotton, which have marketing loan programs, loan rates are set by specific formulas and rules in the law. Nonrecourse loan rates in marketing loan programs have little effect on market prices, farmer returns, or total government costs. They mainly determine the distribution of program benefits between deficiency payments and marketing loan benefits for producers participating in these programs.

For wheat, feed grains, and soybeans, the law contains an initial, or "basic," loan rate that can be subject to discretionary reductions. The size of these reductions is limited in the law and, in the case of soybeans, may be affected by a statutory minimum loan level. For wheat, for example, the formula loan rate is 75 percent to 85 percent (the Secretary's choice) of a five-year moving average of market prices, with the high year and low year removed. The basic loan rate was set in the law for the 1986 wheat crop at $3.00 per bushel and the decline from one year to the next that might result from the moving average formula was limited to 5 percent for the 1987 crop, 3 percent for the 1988 crop, 7 percent for the 1989 crop, and 5 percent for the 1990 crop. For wheat, these maximum year-to-year reductions determine the formula loan during the next several years. Rising market prices are expected to eventually cause the moving average rather than the maximum reductions to determine the basic loan level.

The Secretary can set the actual wheat loan rate by reducing the basic loan level by up to 20 percent. The basic loan for the 1988 crop is

$2.76 per bushel and has indeed been reduced by the Secretary to $2.21 per bushel, a 20 percent drop.

Loan rates for corn and other feed grains are determined in ways similar to those for wheat. The 1986 crop base for corn was $2.40 per bushel. The basic loan rate for soybeans is 75 percent of a five-year moving average of past prices (with the high and low years removed). The loan cannot fall by more than 5 percent per year and begins with a base level of $5.02 for the 1987 crop. The basic loan cannot fall below $4.50 per bushel. The Secretary has the discretion to drop the loan by up to 5 percent below the formula level. The final loan rate, however, also cannot fall below $4.50 per bushel.

Table 4 shows the scope of Secretarial discretion in setting loan rates for the 1988-1990 crop years for wheat, corn, and soybeans by showing the basic loan rate (a maximum rate) and the minimum loan rate that could be selected using available discretion.

The CBO baseline assumes that the Secretary would reduce loan rates to statutory minimums. In some crops, expected market prices rise well above loan rates in later years. In these cases, the loan rate

TABLE 4. THE RANGE OF SECRETARIAL DISCRETION IN DETERMINING LOAN RATES IN CCC PRICE AND INCOME SUPPORT PROGRAMS (By crop year, in dollars per bushel)

Commodity		1988	1989	1990
Wheat	Maximum	2.76	2.57	2.44
	Minimum	2.21	2.06	1.95
Corn	Maximum	2.21	2.06	1.95
	Minimum	1.77	1.65	1.56
Soybeans	Maximum	4.77	4.53	4.50
	Minimum	4.53	4.50	4.50

SOURCE: Congressional Budget Office estimates.

has less of a direct effect on market prices and government costs but, by acting as a floor for market prices, may indirectly affect production decisions by U.S. and foreign producers.

Generic Certificates and the Release of CCC-Owned Stocks

Generic commodity certificates are currently being issued to CCC program participants instead of cash for deficiency payments, diversion payments, conservation reserve rental payments, export enhancement program bonuses, and for several other purposes. These certificates can be used to redeem outstanding nonrecourse loans, exchanged for CCC stocks, or, in some cases, exchanged for cash. Most payments in crop programs can be made all or part in certificates, although advance deficiency payments cannot be more than 50 percent in certificates.

Farmers typically welcome certificates rather than cash because they often yield a return in excess of their face value. One transaction using certificates that has a positive net return for farmers is commonly called "PIK-and-Roll." As an example of this transaction, assume a corn producer places 1,000 bushels of a crop under loan with the CCC at the local loan rate of $1.80 per bushel, thus receiving $1,800. The same producer has also received a generic commodity certificate with a face value of $1,500 (perhaps in place of a cash deficiency payment of that amount). The price at which certificates can be exchanged for commodities that day (the posted county price) is $1.50 per bushel, lower than the corn producer's original loan rate of $1.80. Under these conditions, the certificate can be used to pay off the loan, and the producer has transformed a certificate that was received in place of $1,500 into $1,800 through this transaction. The producer retrieves title to the 1,000 bushels of corn and can sell it at the local market price (which often exceeds the posted county price), feed it to livestock, or store it for later sale or use. This hypothetical transaction would cost the government $300 more than if the original deficiency payment had been made in cash.

Thus, certificate transactions can, and often do, cost the government more than if the farmers had been paid in cash. The lower the posted county price relative to the local loan rate and the greater the volume of certificates, the greater the cost. Certificates can also cause forgone receipts to the CCC because interest is effectively not charged on loans that are redeemed using certificates.

The CBO baseline assumes that one-half of deficiency and diversion payments for all crops would be made in certificates, except when the Administration has already announced a different certificate-cash split. Certificates are also issued as payments in the export enhancement program, the targeted export assistance program, and for conservation reserve rental payments. Assumed levels of certificate issuance for these programs are shown in Table 5.

Exchanging certificates for CCC-owned stocks is the way most government stocks enter the market in this CBO baseline. The USDA's current sales price policy does not allow government-owned wheat and corn to be sold for cash unless prices rise far above current levels. However, they can be "sold" for certificates at any price and, in fact, these exchanges have an effect on outlays that is similar to a cash sale and are referred to as sales in this study.

TABLE 5. ISSUANCES OF GENERIC COMMODITY CERTIFICATES
(By fiscal year, in millions of dollars of face value)

	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
Deficiency Payments	4,468	7,633	5,420	5,294	4,850	4,209	3,528
Diversion Payments	1,201	721	356	373	402	228	0
Ethanol Plant Program	29	0	0	0	0	0	0
Export Enhancement Program	643	1,200	900	800	700	600	500
Targeted Export Assistance	67	110	110	110	110	110	110
Emergency Feed Program	85	0	0	0	0	0	0
Disaster Payments	556	0	0	0	0	0	0
Conservation Reserve Program	410	778	1,030	1,282	1,240	1,190	1,139
Total Issued	7,459	10,442	7,816	7,859	7,302	6,337	5,277

SOURCE: Congressional Budget Office, February 1988 projections.

Since late last year, the USDA has been offering quantities of CCC-owned wheat in exchange for certificates with the rate of exchange being determined by a bidding procedure. Offering to sell specific quantities of grain on a bid basis allows the Secretary to control the flow of CCC stocks into the market. The wheat auctions have caused downward pressure on domestic market prices (or, equivalently, relieved upward pressure) at a time when export demand for U.S. wheat has been far greater than expected.

The CBO baseline assumes that certificate exchanges for CCC-owned grain, through auction or some other method, will be the primary means of getting these excess stocks of wheat and corn to market. In years in which these excess CCC stocks are available for current market uses, specific assumptions about levels of certificate exchanges are determined by calculating market requirements (use less supply available from other sources) at the assumed market price level. Remaining certificates are assumed to be used to redeem several categories of nonrecourse loans. Some are assumed to be cashed in by the original recipient.

CCC outlay projections are very sensitive to assumptions about the quantity of CCC stocks brought onto the market through certificate redemptions. Adding them to the market is like an addition to supply and can have a pronounced effect on prices, similar to the effects of supply increases caused by unusually high yields, or of unexpected shortfalls in export demand.

Other Program Decisions

The Secretary has the option of running marketing loan programs for feed grains, wheat, and oilseeds. In these programs, producers would repay their commodity loans at the lower of the nonrecourse loan rate or the world market price. For feed grains and wheat, the repayment rate cannot fall below 70 percent of the basic loan rate. There is no minimum repayment level for soybeans. Marketing loan programs for sunflower and cotton seeds, which now receive no regular government support, are also authorized in the law. The CBO baseline assumes that these optional marketing loan programs would not be used.

The Secretary also has the option of allowing program payment yields for the 1988 and later crops to be based on moving averages of past program and actual yields rather than leaving them fixed at levels determined for the 1986 and 1987 crops. Using this procedure would increase program yields, leading to increased program payments. The current practice of using fixed program yields rather than a moving average reduces incentives to boost yields beyond economically justified levels to capture future program benefits. The CBO baseline assumes that program payment yields remain fixed at current levels.

PRODUCTION AND MARKET FACTORS

Other important factors affecting baseline outlay projections are the weather, growth in agricultural productivity, producer participation in the commodity programs, and, most directly, levels of production, use, prices, and stocks of commodities supported by CCC programs.

Weather and Annual Growth in Crop Yields

Variation in the weather is the primary cause of year-to-year variation in yields. CBO assumes that average weather prevails and that no other unusual environmental factors, such as pests or disease, affect national average yields.

Assuming that the national average yield is unaffected by the weather is not the same as assuming that each region of the country or every farmer experiences average weather. During any year, regional variation in weather patterns is normal and to be expected, so a regional or localized drought or other natural disaster is not necessarily inconsistent with the assumptions underlying the baseline.

However, widespread drought or natural disaster, such as the summer 1983 drought that significantly affected corn and soybean yields, would certainly affect the national average yield. The assumption of average weather for the five-year projection period almost certainly will not hold; unusually high or unusually low yields for some crops will probably be seen. CBO assumes average weather conditions not because it is the most likely scenario for the projection period, but because there is no acceptable way to forecast the type of weather variation that is likely to occur.

Crop yields are assumed to grow throughout the projection period as a result of farmers' adopting technological improvements that enhance output. Yield increases are based primarily on growth observed in the past. The assumed average annual rate of yield growth over the 1989-1993 crop years is 0.9 percent for wheat, 1.8 percent for corn, 1.6 percent for cotton, and 2.0 percent for rice.

Milk output per cow is also expected to increase over the projection period. The average annual rate of increase assumed in the baseline is 1.9 percent.

Projecting Participation Rates in Crop Programs

Participation by producers in the feed grains, wheat, rice, and cotton programs is voluntary and the rate of participation, measured as a percentage of the crop's total base acreage, is a key part of the projections of program costs. Program outlays are directly affected because participants receive deficiency payments and are eligible for nonrecourse loans. Outlays are also affected because participants must idle some portion of their base acreage. This reduces total production and tends to support prices (affecting deficiency payment rates) or reduces surplus output (affecting nonrecourse loan program costs). Participants can also enter a paid diversion program, if it is offered. Producers choosing not to participate receive no direct government payments but, of course, are not restricted in their planting decisions. Nonparticipants may indirectly benefit if the nonrecourse loan program supports market prices.

Projections of participation rates in the CBO baseline are based on calculations of the net benefits of participating. This involves weighing the benefits (deficiency payments and marketing loan benefits, if any) against the costs (forgone income from idled acreage plus the costs of planting the idled acreage in a conserving crop). Generally the higher the acreage reduction requirement and the higher the expected market price (and thus, the lower the expected deficiency payment), the lower the expected participation rate.

Individual producers make similar calculations when deciding whether or not to participate. Other benefits they consider include the reduction of risk and access to credit at below-market rates through the nonrecourse loan program. Risk is reduced because deficiency payment rates change with average levels of market prices and because payments are based on historical rather than actual levels of production. The $50,000 payments limitation affects the decision for some producers with large farms.

Participation rates in recent years have been very high as direct payments have far outweighed the costs of meeting the acreage reduction requirements. Generally, participation tends to fall throughout the projection period as rising market prices reduce the net returns of participating producers.

Supply and Use Assumptions for Major Crops and Dairy Products

CBO models for the major field crops and dairy products incorporate technical, economic, and accounting relationships to project total supply, use, stocks, and government outlays. These models ensure that technical and accounting relationships are properly reflected and that the effects some commodities have on the production and use of other commodities are correctly included. However, to determine actual values for important variables, such as levels of exports, CBO considers the underlying economic and program assumptions, conducts analyses of trends and other factors affecting the variable being projected, and, lastly, takes into account the judgments of commodity experts before constructing the projection. A panel of experts from government and business then reviews a preliminary version of the CBO baseline, and their comments and the results of further discussions with other commodity experts are incorporated.

MINOR CROP PROGRAMS AND OTHER EXPENSE CATEGORIES

As seen earlier in Table 1 (page 2), the bulk of total outlays for the CCC appear in the programs for feed grains, wheat, rice, cotton, soybeans, and dairy products, those programs that are explicitly modeled by CBO. For the other supported commodities--peanuts, tobacco, honey, and sugar--CBO typically critically reviews current policy projections provided by the USDA and, in most cases, accepts those figures.

The USDA's projections are also the basis for most of the types of spending included in the noncommodity components of CCC outlays. However, CBO makes independent estimates of export credit guarantee claims (net costs of federally guaranteed export loans that have been defaulted on) and net CCC interest.

CHAPTER III

THE OUTLOOK FOR MAJOR COMMODITIES

The outlooks for the individual major crops included in this study are similar in many respects. Market prices rise from the crop year 1986 lows that occurred after price supports were dropped or eliminated in the 1985 farm bill. Exports rebound from the dismal performance of the 1985 crop year, generally following an upward trend, but do not reach the levels seen at the beginning of the decade. Stocks fall to manageable levels for all crops. Cotton stocks are already at relatively low levels, excess rice and soybean stocks will be mostly gone by the end of this crop year, and another year of use (consumption) exceeding production is needed to bring wheat stocks down. Reducing corn stocks to reasonable levels will take more time, unless an unforeseen event causing a shortfall in production or a surge in demand provides an opportunity to reduce stocks quickly.

Government program assumptions both affect and are affected by the outlook for the crops. Acreage controls are used early in the projection period to constrain production and thus allow stocks to be reduced. As stocks drop and export demand grows, acreage controls are relaxed, allowing greater production so that market demand may be met while prices remain at competitive levels. The maximum allowed unpaid acreage reduction program requirement is maintained in corn throughout the period, and the paid land diversion is reduced and then eliminated to let production grow as stocks decline. Potential expansions in planting caused by the reduction of acreage controls in the crop programs are partly offset by rising enrollment of land in the conservation reserve program, which is projected to reach 45 million acres by 1990.

The dairy program is very different from the crop programs; while export demand is key in determining market conditions for the field crops, the dairy market is dominated by domestic supply and use factors. The dairy program in the Food Security Act requires annual milk price support reductions when excess government purchases are expected. Lower price supports reduce incentives to produce milk and encourage greater consumption. Baseline projections assume that support price reductions would be made in January 1989 and January 1990, but that in later years government purchases would be relatively low and no further support price changes would be required.

CORN

Stocks carried over from the 1987 corn crop year (ending in August 1988) are expected to fall for the first time since the 1983 crop year. Ending stocks are projected to fall nearly 16 percent from the record level of 4.9 billion bushels reached in crop year 1986. While the Congressional Budget Office expects this season's average corn price to be higher than last season's, it will remain below the loan rate of $1.82 per bushel. Sharply higher exports have been generated by low corn prices, the falling dollar, and weather problems in Southeast Asia and Eastern Europe. Low corn prices have also fueled an expansion in the domestic livestock sector, spurring corn feed demand. Reduced corn production, held in check by large government acreage programs, has combined with increases in use to improve significantly the outlook for corn farmers.

CBO expects stocks to continue declining but at a slower rate than this year for the remainder of the projection period. Market prices are expected to remain near loan rate levels as the U.S. Department of Agriculture encourages redemption of generic commodity certificates for government-owned corn stocks. While stocks are expected to decline, they remain quite high by historical standards. As a result, the baseline assumes relatively large acreage reduction programs throughout the projection period.

Government Programs

The CBO baseline projection assumes loan rates will be reduced by the maximum amount allowed under current law for the 1989-1993 crop years. Target prices are $2.93 per bushel in 1988 and $2.84 in 1989, as mandated in the Omnibus Budget Reconciliation Act, and $2.75 per bushel in 1990, as specified in the Food Security Act. CBO assumes target prices will continue to decline through the 1993 crop.

The baseline assumes the USDA will continue the unpaid acreage reduction programs at 20 percent of base acreage for crop years 1989-1993, the maximum levels allowed under current law. The Omnibus Budget Reconciliation Act requires a 10 percent paid land diversion for producers of corn and other feed grains (except oats) in crop years 1988 and 1989 at a payment rate of $1.75 per bushel. The baseline assumes continued paid diversions in later years but at reduced levels as ending stocks drop below 3 billion bushels. Corn acreage entered into the conservation reserve program will rise from 3.8 million acres in crop year 1987 to 5.7 million in 1990. The act also mandates the 0/92 program, which extends the earlier 50/92 program by allowing feed grain or wheat producers who prefer to idle all acreage to receive 92 percent of their expected deficiency payment at the rate announced when they signed up for the program.

Supply and Demand

Production. CBO projects that corn production in crop year 1988 will rise to 7.3 billion bushels, 4 percent above the previous year's level. (Table 6 summarizes production and use projections for corn; Box 4 explains important concepts found in all tables in this chapter.) Higher plantings this spring are partly offset by an expected yield of 119 bushels per harvested acre (slightly down from the crop year 1987 yield). Planted acreage is projected to increase 2.7 million acres to 68.4 million acres, mainly because of a smaller and less attractive paid diversion program. The new 0/92 program, which allows farmers to receive 92 percent of estimated deficiency payments even if they plant no corn, will keep plantings from rising further by idling 0.8 million acres. Given relatively weak market prices, corn farmers will continue to face strong incentives to participate in the government's acreage reduction programs. Participation in the 1988 crop program is expected to fall to 87 percent of base acreage, only slightly lower than last year's record level.

Production in crop years 1989 through 1991 is projected to range between 7.3 billion and 7.5 billion bushels as relatively weak market prices keep participation at high levels. CBO projects that production will rise significantly when the paid land diversion program is phased out beginning in 1992.

TABLE 6. CORN SUPPLY AND USE (By crop year)

	1986 Actual	Projected 1987	1988	1989	1990	1991	1992	1993
Millions of Acres								
Base Acres (Net of CRP)	81.7	81.8	81.7	81.0	80.8	80.4	80.4	80.4
Percent of Base Acreage								
Acreage Reduction								
ARP	20 a/	20	20	20	20	20	20	20
PLD	0	15	10	10	10	10	5	0
Participation								
ARP	84	88	87	86	86	85	79	77
PLD	0	64	50	50	53	58	70	0
Millions of Acres								
Total Conservation Use Acres	13.6	21.1	17.7	17.4	17.5	17.6	15.0	12.4
Acres Planted	76.7	65.7	68.4	66.9	65.9	66.0	68.8	71.5
Acres Harvested	69.2	59.2	61.6	60.2	59.3	59.4	61.9	64.3
Bushels per Acre								
Yield Per Harvested Acre	119.3	119,4	119.0	121.1	123.3	125.5	127.8	130.1
Program Yield	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0
Millions of Bushels								
Supply								
Beginning Stocks	4,040	4,882	4,123	3,793	3,465	3,007	2,503	2,258
Production	8,250	7,064	7,327	7,298	7,314	7,459	7,911	8,369
Total (Including imports)	12,293	11,949	11,453	11,095	10,782	10,470	10,418	10,630
Use								
Food, Seed, and Industrial	1,191	1,225	1,251	1,295	1,341	1,383	1,430	1,480
Feed and Residual	4,715	4,900	4,661	4,507	4,541	4,641	4,734	4,803
Exports	1,504	1,700	1,746	1,827	1,892	1,941	1,994	2,053
Total	7,410	7,825	7,658	7,629	7,773	7,965	8,158	8,336
Ending Stocks	4,882	4,123	3,793	3,465	3,007	2,503	2,258	2,293
Farmer-Owned Reserve b/	1,509	1,374	1,245	1,011	811	611	481	462
CCC-Owned Stocks	1,761	1,910	1,949	1,954	1,676	1,242	1,127	1,081
Outstanding CCC Loans	1,773	789	500	400	400	400	400	450
Free Stocks c/	-161	50	100	100	120	250	250	300
Dollars per Bushel								
Prices								
Target Price	3.03	3.03	2.93	2.84	2.75	2.63	2.51	2.40
Season Average Price	1.50	1.75	1.78	1.67	1.68	1.72	1.73	1.72
Loan Rate	1.92	1.82	1.77	1.65	1.56	1.49	1.41	1.34
Deficiency Payment Rate	1.11	1.21	1.15	1.17	1.07	0.90	0.78	0.72

SOURCE: Congressional Budget Office, February 1988 projections.
NOTE: CRP = conservation reserve program; ARP = acreage reduction program; PLD = paid land diversion.

a. Includes a 2.5 percent mandatory paid land diversion program.
b. See Glossary for an explanation of this term.
c. Privately held stocks not being used as collateral for government loans.

Use. CBO projects that use in the 1987 corn crop year will increase about 480 million bushels, or 6 percent above last year's level, to 7.8 billion bushels. Increased use is split roughly equally between exports and domestic feeding. CBO projects domestic feed use will rise about 4 percent this season over 1986, despite somewhat higher prices.

Corn feeding this season is being spurred by relatively strong livestock prices combined with weak corn prices. Livestock producers are, in general, responding by increasing feeding rates rather than

BOX 4
IMPORTANT CONCEPTS IN THE SUPPLY, USE, AND OUTLAY TABLES

The tables in this chapter are designed to be self-explanatory. However, sometimes additional information is needed to understand how the various table elements fit together.

For example, acres planted to program crops cannot be directly calculated from information in the tables. Planted acres of corn equal the sum of acreage planted by program participants and nonparticipants. Participating producers may plant on their corn program base acreage, less the acreage that must be idled under the corn acreage reduction program. This amount of land is a ceiling on corn planted acreage for the participating producer. Participating producers can, and sometimes do, plant less than the maximum and still receive program benefits. Nonparticipating producers are free to plant corn on any amount of acreage regardless of the size of their base acreage. However, producers that participate in another crop program, but not in the corn program, cannot plant corn in excess of their program base acreage.

Also, the total deficiency payment rate in some cases cannot be derived from the price information provided in the tables. Box 2 describes the calculation.

Columns in the supply and use tables are crop, or marketing, years while those in the program outlay tables are fiscal years. The period covered by marketing years varies by crop--only the dairy marketing year coincides with the fiscal year. In the crop programs, outlays in any fiscal year can stem from costs associated with several different crops. During fiscal year 1988, for example, corn deficiency payments on the 1986, 1987, and 1988 crops are made. Fiscal year 1988 nonrecourse loan costs are mostly associated with the 1987 corn crop. In wheat, which is harvested earlier than corn, some 1988 crop year nonrecourse loan costs appear in fiscal year 1988.

holding back animals for herd expansion. On an October-September marketing year basis, 1987 hog production is expected to increase to 14.9 billion pounds, 7 percent above 1986, and poultry production will rise to 20.8 billion pounds, 6 percent above 1986. These increases will more than offset a 2 percent drop in beef production to 23 billion pounds. Corn feed and residual use during the first quarter of this crop year was up 8 percent from the previous year. Growth in corn feed use during the remainder of the crop year will moderate because of falling livestock prices and rising corn prices. CBO projects corn feed and residual use in the 1988 crop year will decline 5 percent from this year's record to about 4.7 billion bushels per year, as livestock producers respond to reduced profit margins. Domestic feeding will fall to 4.5 billion bushels in 1989 before rising 1 percent to 3 percent per year through 1993.

Nonfeed domestic corn use is projected to increase about 3 percent in crop year 1987 over 1986 to 1.23 billion bushels, and the CBO baseline projects similar increases in later years. Corn used to produce alcohol (primarily for ethanol production) is projected to increase about 7 percent over last year, to 350 million bushels. Annual growth is projected to slow to 3 percent or 4 percent in later years, partly in response to higher corn prices.

CBO projects exports this season will reach 1.7 billion bushels, an increase of 13 percent from the 1986 crop year level. The U.S. share of world corn trade is expected to rise to 76 percent, up from 70 percent in 1986. Japan, Eastern Europe, the Soviet Union, Taiwan, South Korea, and several other countries are all purchasing substantially more U.S. corn than last year. Low U.S. corn prices combined with the falling dollar are boosting purchases, particularly by Japan. Weather problems have reduced domestic corn production in Eastern Europe and Southeast Asia and have aided U.S. exports to those regions. In the later projection years, the CBO baseline assumes increases of about 3 percent to 5 percent per year, roughly in line with projected growth in world trade.

Prices and Stocks. CBO's estimates for 1987 crop production and use imply a stock reduction of more than 0.8 billion bushels from 1986 crop year levels--the first reduction in ending stocks in four years. With corn prices remaining close to the loan rate, CBO projects continued reduction in stocks with annual declines ranging from 0.3 billion to 0.5 billion bushels.

Historically, when use exceeds production to such a degree, market prices have risen well above the government's nonrecourse loan rate. However, this has not happened during the 1987 crop year. During the early months of the marketing year corn prices averaged well below the loan rate, and the season average price is expected to average $1.75 per bushel compared with the loan rate of $1.82.

The USDA has prevented any large upward price movement this season by making government corn stocks and 1986 and older crop loans available to the market at lower prices than would otherwise be the case, through generic certificates. About 300 million bushels of government corn were redeemed with certificates during the first five months of the marketing year. Old crop loans are also available to the market at prices lower than would otherwise be the case. If a farmer repays an old crop loan with certificates, the USDA effectively forgives any accumulated interest. Loan activity data suggest that 200 million to 300 million bushels of mostly 1986 crop loans were repaid with certificates during the first five months of this crop year, when market prices were well below cash redemption levels. Without certificates, for market needs to be met, corn prices would have had to average at or above the 1986 crop cash repayment level ($1.90 to $1.95 per bushel) for much of the year.

CBO assumes that the USDA will continue its certificate redemption policy next season and in later years to reduce stocks. However, the USDA will have to emphasize redemptions for government-owned stocks (perhaps through auctions) because of reduced levels of outstanding loans. The projected average prices for the 1988 and 1989 crop years are very close to loan rate levels. Prices in later years are assumed to rise above loan rates. Price projections for all years are highly contingent on the assumed USDA stock redemption policy. For example, if the USDA decides to be less aggressive in reducing government stocks than is assumed in the baseline, corn prices could be significantly higher than projected.

Government Costs

CBO projects that feed grain program outlays (which are dominated by corn but also include sorghum, barley, and oats program costs) will fall to $13.1 billion in 1988 from $14.0 billion in 1987 (see Table 7). Outlays are expected to fall this year despite changes in the timing of deficiency payments mandated in the Food Security Act that delayed $3.0 billion in corn and sorghum payments from 1987 to 1988. CBO projects that feed grain program outlays will fall to $11.9 billion in 1989 and to $8.1 billion by 1993, as deficiency payments and net lending costs fall because of improved market conditions and falling target prices.

TABLE 7. CORN AND FEED GRAIN PROGRAM OUTLAYS
(By fiscal year, in millions of dollars)

	1987	Projected					
	Actual	1988	1989	1990	1991	1992	1993
			Corn Program Outlays				
Net Lending							
Loans Made	9,465	9,008	7,885	7,031	6,757	6,384	6,217
Cash Loans Repaid	-289	-458	-1,529	-328	-1,088	-1,981	1,592
Net Loans	9,176	8,550	6,356	6,703	5,670	4,403	4,625
CCC Storage and Handling	666	848	743	765	736	640	471
Direct Cash Payments							
Deficiency	1,661	2,536	3,239	3,181	2,969	2,586	2,171
Diversion a/	345	0	320	335	361	205	0
Reserve Storage	583	382	347	299	241	188	145
Other	-22	-87	-26	16	12	87	210
Total Outlays	12,346	12,228	10,979	11,300	9,989	8,110	7,622
			Feed Grain Program Outlays				
Sorghum, Barley, and Oats	1,620	903	967	825	707	636	476
All Feed Grains (Including corn)	13,967	13,132	11,946	12,125	10,696	8,745	8,098

SOURCE: Congressional Budget Office, February 1988 estimates.

a. Diversion payments for the 1988 crop will be made entirely in generic certificates. In later years, the baseline assumes 50 percent of these payments will be made in cash.

Corn program outlays are expected to fall from $12.2 billion in 1988 to $7.6 billion in 1993. CBO assumes that corn program outlays will be 90 percent to 95 percent of feed grain program outlays over the projection period. This ratio is higher than the historical average, and the projected corn outlays in Table 7 are also high relative to outlays for the wheat, cotton, and rice program because the corn outlays reflect costs of direct payments made to producers of other crops that are paid in generic certificates. The baseline assumes that most certificates are redeemed for corn loans or stocks and appear as higher corn net lending costs.

Corn deficiency payments, on a crop year basis including both cash and certificates, are projected to peak at $6.4 billion for the 1987 crop year before falling steadily to $3.7 billion for 1993. Corn diversion payments will fall roughly one-half in 1987 from 1986 levels to $650 million, as a result of this year's less attractive paid land diversion program.

WHEAT

The outlook for wheat farmers has improved since the beginning of the 1987 crop year. Led by an expansion of export demand, prices are substantially above the loan rate and above previous expectations. Aggressive selling of Commodity Credit Corporation stocks at weekly auctions has reduced government wheat holdings and has added to available supplies to meet export demand, stimulated by continued large subsidies under the export enhancement program. Prices over the next six years are projected to strengthen and stocks to fall since expected new production is less than use until the end of 1993.

Government Programs

For the 1988 crop, the acreage reduction program for wheat is 27.5 percent, the same as in 1987. However, in later years, acreage reduction programs assumed in the baseline fall to reflect lower projected ending stocks of wheat. Other programs that affect acreage include the conservation reserve program and the introduction of the 0/92 program. Wheat acreage in the conservation reserve is assumed to increase from under 1 million acres in crop year 1986 to 22.5 million acres by 1993.

Other government program parameters assumed in the baseline include continuously declining target prices and the use of discretion that allows the Secretary of Agriculture to drop the loan rate up to 20 percent below the basic loan rate each year--the maximum reduction. New legislation restricting the use of multiple corporations to avoid the payments limitation (the limitation on total payments from all farm income and price support programs) will reduce payments to some producers. However, the $50,000 limit will be reached by fewer wheat farmers because the deficiency payment rate is expected to fall each year. The export enhancement program is expected to continue at high, but falling, annual levels--estimated at $1.2 billion in 1988, falling to $500 million by 1993.

Supply and Demand

Production. Production of wheat is projected to grow in the baseline period (see Table 8), although it still falls short of the levels of crop years 1981 and 1982. Wheat acreage is expected to account for about half of the 45 million acres of farmland to be taken out of production under the 10-year conservation reserve program. However, lower acreage reduction program requirements and reduced participation rates in the programs cause projected harvested acreage to rise. The Food Security Act prohibits an acreage reduction program of more than 20 percent for wheat if beginning stocks are estimated to be below 1 billion bushels. In crop year 1990 and beyond, beginning stocks are projected to be less than this trigger level, so the acreage reduction program percentage is reduced each year. With a trend of increasing yield in the baseline, the record yield of crop year 1983 is surpassed by 1990. By the last two years of the baseline period, a small acreage reduction program allows annual output to be close to expected annual use. Base acreage net of that in the conservation reserve program, however, is low by 1993 relative to 1986. With a substantial amount of wheat acreage in the long-term reserve, there is room for higher production, given a policy change, if demand conditions warrant such an increase.

TABLE 8. WHEAT SUPPLY AND USE (By crop year)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
Millions of Acres								
Base Acres (Net of CRP)	91.6	88.3	83.0	80.3	79.0	80.0	80.2	80.7
Percent of Base Acreage								
Acreage Reduction								
ARP	25 a/	27.5	27.5	20.0	15.0	10	7.5	7.5
PLD	5 or 10 b/	0	0	0	0	0	0	0
Participation in ARP	85	87	84	79	75	74	73	70
Millions of Acres								
Total Conservation Use Acres	20.3	20.4	19.2	12.7	8.9	5.9	4.4	4.3
Acres Planted	72.1	65.7	63.8	65.5	68.3	73.5	75.3	76.0
Acres Harvested	60.7	55.8	54.9	56.3	58.8	63.2	64.7	65.4
Bushels per Acre								
Yield Per Harvested Acre	34.4	37.7	38.9	39.3	39.6	39.8	40.2	40.7
Program Yield	35.0	33.7	33.7	33.7	33.7	33.7	33.7	33.7
Millions of Bushels								
Supply								
Beginning Stocks	1,905	1,821	1,332	1,069	871	734	728	746
Production	2,092	2,105	2,137	2,215	2,328	2,512	2,602	2,661
Imports	21	15	15	15	15	15	15	15
Total	4,018	3,941	3,483	3,299	3,214	3,261	3,345	3,421
Use								
Domestic	1,193	1,109	1,064	1,025	1,039	1,062	1,089	1,109
Exports	1,004	1,500	1,350	1,403	1,442	1,471	1,510	1,522
Total	2,197	2,609	2,414	2,428	2,481	2,533	2,599	2,631
Ending Stocks	1,821	1,332	1,069	871	734	728	746	791
Farmer-Owned Reserve c/	632	500	400	300	200	150	150	140
CCC-Owned Stocks	830	423	276	246	214	173	157	151
Outstanding CCC Loans	236	153	126	26	26	26	26	26
Free Stocks d/	123	256	268	300	295	380	414	475
Dollars per Bushel								
Prices								
Target Price	4.38	4.38	4.23	4.10	4.00	3.85	3.70	3.56
Season Average Price	2.42	2.58	2.70	2.78	2.85	2.90	2.93	2.98
Loan Rate	2.40	2.28	2.21	2.06	1.95	1.86	1.78	1.82
Deficiency Payment Rate	1.98	1.80	1.53	1.42	1.25	1.05	0.87	0.68

SOURCE: Congressional Budget Office, February 1988 projections.

NOTE: CRP = conservation reserve program; ARP = acreage reduction program; PLD = paid land diversion.

a. Includes a 2.5 percent mandatory paid land diversion program.

b. Producers were given the option of an additional voluntary paid land diversion of 5 percent or 10 percent.

c. See Glossary for an explanation of this term.

d. Privately held stocks not being used as collateral for government loans.

Use. Total wheat use is projected to exceed the 1981 record by crop year 1993, the last year in the baseline projection. The growth is caused entirely by the expansion of export and domestic food use, while feed and seed use are still low relative to the earlier 1980s. Feed use is expected to fall as corn prices become more competitive and seed use is constrained by lower planted acreage. Food use is likely to continue to rise by about 20 million bushels per year as new processed foods (like frozen croissants) stimulate demand.

Exports are expected to continue to expand from the dismal levels in crop years 1985 and 1986 (see Table 8). In crop year 1987, large sales have been made to both the USSR and China, two countries that had been important U.S. markets in earlier years but which had begun to import from U.S. competitors in recent years. The United States is expected to regain roughly a 38 percent share of world trade by the 1988 crop year, with the share remaining at about that level through 1993. Though annual world trade levels are sensitive to the weather, and to economic and policy changes, average global wheat trade growth is expected to exceed population growth slightly. This expectation depends on reasonable economic growth abroad and no intensification of current debt problems throughout the world.

Prices and Stocks. Wheat stocks are expected to fall to under 1.1 billion bushels by the end of crop year 1988, and to fall further in later years. By 1993, stocks are projected to be under 800 million bushels or less than half the 1986 level. Most of those stocks will be privately held, with CCC inventory near the legislatively mandated minimum for international food security purposes The CCC inventory declined sharply during the 1987 crop year, when weekly auctions were held. Beginning in 1990, CBO assumes the farmer-owned reserve level will fall below the newly legislated minimum of 300 million bushels when the season average price rises above 140 percent of the loan rate. Current law allows the USDA to waive the farmer-owned reserve minimum when the farm price reaches this level. By the 1993 crop year, the loan rate will be based on the average of the market prices of the previous five years (minus the highest and the lowest). As a result, the loan rate stops declining by 1993. Market prices are expected to continue rising to almost $3.00 a bushel by 1993. However, that price still falls short of farm prices in the 10 preceding years. Annual variability of prices may increase as total and government-held stocks fall to relatively low levels; total stocks are projected to be 30 percent of total use by 1993 compared with almost 100 percent in 1985.

Government Costs

Government cash outlays for wheat appear small, as half of all deficiency payments are assumed to be made in generic certificates, which are redeemed overwhelmingly in corn. Even cash payments fall over the baseline period because the deficiency payment rate is expected to be more than halved over the next five years (see Table 9). The Findley deficiency payment is projected to disappear after 1988 as the season average farm price exceeds the basic loan rate. Total government payments (cash plus the value of certificates) for direct deficiency payments, net lending, and storage payments are estimated to be $4.0 billion in 1986 and are projected to fall to $1.4 billion by 1993. With market prices rising relative to the loan rate, the incentive to use the loan program diminishes. Outlays for net lending in wheat are expected to fall to under $200 million in 1993 compared with $1.2 billion in 1986.

TABLE 9. WHEAT PROGRAM OUTLAYS
(By fiscal year, in millions of dollars)

	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
Net Lending							
Loans Made	1,170	884	734	617	547	493	487
Cash Loans Repaid	-407	-816	-468	-420	-362	-345	-324
Net Loans	763	67	266	198	185	148	163
CCC Storage and Handling	348	232	132	101	89	72	58
Direct Cash Payments							
Deficiency	1,547	591	1,198	1,100	978	849	696
Reserve Storage	172	150	119	93	66	46	40
Other	6	-50	-54	-55	-55	-56	-57
Total Outlays	2,836	990	1,660	1,436	1,263	1,059	900

SOURCE: Congressional Budget Office, February 1988 projections.

RICE

During the past year, rice prices have strengthened and stocks are being sharply drawn down as a result of reduced supplies from Asia. Annual use is expected to exceed output slightly in the projection period. However, a relatively large amount of acreage will still have to be set aside to keep stocks from growing above the 30 million hundredweight (cwt) level cited in the farm law as a target.

Government Programs

Target prices for rice fall throughout the projection period. The minimum loan rate of $6.50 per cwt is reached by crop year 1989 and maintained thereafter. The baseline assumes that neither the conservation reserve program nor the 50/92 program will attract much rice acreage. The 50/92 program, unlike the new 0/92 program being offered only to wheat and feed grain producers, requires the producer to plant their program crop on at least 50 percent of their permitted acreage to receive 92 percent of the expected deficiency payment. CBO assumes the marketing loan program will continue. New restrictions on reorganizing to avoid the payments limitation may curtail payments to some rice producers.

Supply and Demand

Production. The announced acreage reduction program percentage for rice has been set at 25 percent for the 1988 crop and is projected to fall to 15 percent by 1993 (see Table 10). With projected increases in use, acreage reduction programs are assumed to decline to keep ending stocks from falling below 30 million cwt. Participation in the rice program is expected to remain at 90 percent or more, because of the large program benefits. Over the next six years, acreage planted in rice will likely be up about 30 percent as set-aside requirements fall. Yields, which rose rapidly in the early 1980s with the introduction of the Lemont semi-dwarf variety, are expected to rise more slowly during the projection period. The additional acreage in production together with somewhat higher yields may result in 50 percent more output by the 1993 crop year.

TABLE 10. RICE SUPPLY AND USE (By crop year)

	1986 Actual	Projected						
		1987	1988	1989	1990	1991	1992	1993
				Thousands of Acres				
Base Acres	4,199	4,183	4,203	4,223	4,243	4,263	4,283	4,303
				Percent of Base Acreage				
Acreage Reduction Program	35	35	25	20	20	20	17.5	15
Participation in ARP	91	96	98	94	91	90	91	91
				Thousands of Acres				
Acres Planted	2,380	2,336	2,885	2,941	2,882	2,871	2,974	3,073
Acres Harvested	2,360	2,314	2,865	2,921	2,862	2,851	2,954	3,053
				Pounds per Acre				
Yield Per Harvested Acre	5,651	5,482	5,704	5,774	5,948	6,061	6,148	6,290
Program Yield	5,051	4,905	4,905	4,905	4,905	4,905	4,905	4,905
				Millions of Cwt				
Supply								
Beginning Stocks	77.5	51.6	23.3	30.0	35.5	36.1	32.8	31.1
Production	133.4	126.8	163.4	168.6	170.2	172.8	181.7	192.0
Imports	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Total	213.3	181.1	189.3	201.2	208.4	211.5	217.0	225.7
Use								
Domestic	76.3	78.8	81.8	85.7	89.8	94.2	99.0	103.7
Exports	85.4	79.0	77.5	80.0	82.5	84.5	87.0	89.5
Total	161.7	157.8	159.3	165.7	172.3	178.7	186.0	193.2
Ending Stocks	51.6	23.3	30.0	35.5	36.1	32.8	31.1	32.4
CCC-owned stocks	8.7	0	6.1	10.7	10.3	6.0	3.2	7.3
Free Stocks a/ and Outstanding CCC Loans	42.9	23.3	23.9	24.8	25.8	26.8	27.9	25.1
				Dollars per Cwt				
Prices								
Target Price	11.90	11.66	11.15	10.80	10.71	10.48	10.25	10.02
Season Average Price	3.75	7.50	8.75	6.56	6.63	6.69	6.75	6.81
Loan Rate	7.20	6.84	6.63	6.50	6.50	6.50	6.50	6.50
World Price	3.82	6.00	7.00	5.25	5.30	5.35	5.40	5.45
Deficiency Payment Rate	4.70	4.82	2.84	4.30	4.21	3.98	3.75	3.52

SOURCE: Congressional Budget Office, February 1988 projections.

NOTE: ARP = acreage reduction program; cwt = hundredweight.

a. Privately held stocks not being used as collateral for government loans.

Use. Use is expected to continue its recent increase, with exports accounting for almost half of total rice use by crop year 1993. U.S. exports may account for one-quarter of world trade, above levels seen in the first half of the 1980s. U.S. price competitiveness has been restored with the April 1986 advent of the marketing loan, which allows U.S. farmers to repay loans at the farm-equivalent level of world prices. This has reversed the situation of the early 1980s, when domestic loan rates kept U.S. farm and export prices from falling in response to reduced competitor prices. The level of future global imports, however, depends on economic conditions, especially in developing countries, the major market for U.S. rice exports. Key factors in the strength of developing country markets include oil prices (particularly in the Middle East) and debt repayment capacity. The baseline assumes neither a further erosion of the financial situation nor a major improvement.

Domestic use of rice is expected to continue rising both in ethnic and mainstream markets. During the past 10 years, domestic consumption has increased substantially. Use of rice as a side dish in restaurants, institutions, and in prepared meals is increasing.

Prices and Stocks. Ending stocks of rice have already fallen to relatively low levels: ending stocks for crop year 1987 are estimated to be at their lowest level since the 1980 crop year. All current stocks are expected to be held privately--reducing CCC storage outlays considerably for 1988 and future years.

Season average farm prices for rice are projected to rise through crop year 1988 but decline thereafter, as competitors' supplies increase. Farm prices are projected to remain between $6.50 and $7.00 per cwt from 1990 through 1993, substantially below those in the latter part of the 1970s through the mid-1980s.

Government Costs

Projected outlays for the rice program appear quite low in the 1988-1993 period, ranging from $233 million in 1988 to $485 million in 1993 (see Table 11). However, these represent only cash outlays for rice. Half of all direct payments are expected to be made in generic

TABLE 11. RICE PROGRAM OUTLAYS
(By fiscal year, in millions of dollars)

	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
Net Lending							
Loans Made	916	927	1,073	1,084	1,096	1,126	1,186
Cash Loans Repaid	-421	-779	-979	-854	-863	-907	-961
Net Loans	494	149	94	230	234	220	225
CCC Storage and Handling	33	5	4	11	14	11	6
Direct Cash Payments							
Advanced Deficiency	82	79	92	88	83	81	78
Regular Deficiency	296	0	111	199	191	179	175
Total Outlays	906	233	301	528	521	490	485

SOURCE: Congressional Budget Office, February 1988 projections.

certificates, most of which are likely to redeemed in the corn program. The value of all deficiency payments (cash plus the value of generic certificates), marketing loan benefits, net lending, and storage costs is projected to fall from $0.9 billion in 1986 to $0.7 billion in 1993.

As noted above, storage costs will be minimal in the future. However, deficiency payments will remain large as target prices exceed the loan rate and farm prices by a substantial margin. In addition, the marketing loan benefit (the difference between the initial loan rate extended to producers and the eventual repayment price) is expected to rise and exceed $1 per cwt by crop year 1993.

COTTON

Cotton prices have risen as demand for the 1987 crop has surged. The stronger market allows projected acreage reduction percentages and participation rates in 1988 and later years to fall. Both domestic mill use and exports are projected to expand along with output, keeping stocks in line with use. With market prices above the loan rate and rising over the baseline period, reliance on the loan program diminishes and deficiency payments fall.

Government Programs

The baseline assumes a continued decline in cotton target prices, loan rates that move in line with market prices, and a continuation of the marketing loan program. Around 10 percent of base acreage is expected to be idled in the conservation reserve program and the 50/92 program combined. The recently enacted legislation to restrict use of corporations to evade the payments limitation may constrain payments to some farmers. More important, however, the drop in the deficiency payment rate will raise the acreage necessary to reach the payments limitation.

Supply and Demand

Production. The crop year 1988 acreage reduction program for cotton was announced at 12.5 percent, half that of the previous year, in response to falling stocks (see Table 12). CBO projects 1988 production of 14.3 million bales, about the same as last year. Increased planted acreage of 11.8 million acres (up from 10.3 million last year) should offset a lower yield of 610 pounds per acre. A return to a more normal yield is expected after the 1987 record of 692 pounds per acre.

In later years, production is expected to rise slowly in line with the assumed yield trend from 14.4 million bales in crop year 1989 to 15.0 million bales by 1993. During the 1989-1993 period, acreage reduction programs are assumed to be set at 15 percent. Program participation rates will fall to 45 percent by 1993, half the 1986 level, in reaction to rising market prices and reduced government payments. CBO assumes planted acreage over this period will hover around 11.5 million to 12.0 million acres and yields will grow 10 pounds per acre per year. However, this yield trend still leaves the 1993 yield short of the 1987 record.

Use. Cotton is expected to remain competitive with synthetics and the downward trend of cotton mill use over the past several decades is expected to be reversed. CBO projects that mill use will range between 7.5 million and 8.0 million bales over the projection period. Advertising campaigns to encourage consumers to buy all-cotton and

TABLE 12. UPLAND COTTON SUPPLY AND USE (By crop year)

	1986 Actual	Projected 1987	1988	1989	1990	1991	1992	1993
Millions of Acres								
Base Acres (Net of CRP)	14.65	14.08	13.75	13.50	13.25	13.20	13.15	13.10
Percent of Base Acreage								
Acreage Reduction Program	25	25	12.5	15	15	15	15	15
Participation in ARP	91	89	87	71	62	61	56	45
Millions of Acres								
Total Conservation Use Acres	0.07	0.69	1.30	1.60	1.80	1.80	1.80	1.80
Acres Planted	9.94	10.29	11.79	11.68	11.42	11.38	11.37	11.40
Acres Harvested	8.47	9.93	11.29	11.15	10.91	10.87	10.86	10.88
Pounds per Acre								
Yield Per Harvested Acre	547	692	610	620	630	640	650	660
Program Yield	587	575	565	565	565	565	565	565
Millions of Bales								
Supply								
Beginning Stocks	9.25	5.02	4.79	5.29	5.67	5.79	5.91	6.03
Production	9.65	14.31	14.33	14.39	14.31	14.48	14.70	14.95
Total (Including imports)	18.90	19.34	19.14	19.69	19.98	20.28	20.62	21.00
Use								
Domestic Mill	7.4	7.8	7.5	7.5	7.6	7.7	7.8	7.8
Exports	6.6	6.9	6.5	6.6	6.7	6.8	6.9	7.1
Total (Including unaccounted)	14.03	14.75	14.05	14.22	14.40	14.57	14.79	15.00
Ending Stocks	5.02	4.79	5.29	5.67	5.79	5.91	6.03	6.19
CCC-Owned Stocks	0.07	0	0	0	0	0	0	0
Outstanding CCC Loans	3.00	2.69	3.19	3.57	3.69	3.81	3.93	4.09
Free Stocks a/	1.96	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Cents per Pound								
Prices								
Target Price	81.0	79.4	75.9	73.4	72.9	71.3	69.8	68.3
Season Average Price	51.8	62.1	59.4	60.7	61.2	62.8	64.4	64.9
Loan Rate	55.0	52.3	51.8	53.3	53.3	55.5	57.8	57.8
Loan Repayment Rate	44.0	52.3	51.8	53.3	53.3	55.5	57.8	57.8
World Price	48.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0
Calendar Year Average Price	53.8	60.1	61.0	59.9	60.9	61.8	63.4	64.6
Deficiency Payment Rate	26.0	19.3	14.9	13.5	12.0	9.5	6.4	3.7

SOURCE: Congressional Budget Office, February 1988 projections.

NOTE: CRP = conservation reserve program; ARP = acreage reduction program.

a. Privately held stocks not being used as collateral for government loans.

cotton blends in apparel have been relatively successful. However, cotton mill use is highly correlated with economic conditions, and differences in actual future economic growth from the baseline projections will be more significant for cotton mill use than for domestic use of most other program commodities. Another factor influencing domestic mill use of U.S. cotton is the level of textile imports. These imports are restricted by the Multi-Fiber Arrangement of 1986, which sets bilateral quotas on U.S. imports of textiles by country. The baseline assumes a continuation of current textile trade policy.

The marketing loan program for cotton was established during the 1986 crop year, and exports rose sharply. With global demand remaining high, and a retrenchment in export supplies from China, U.S. exports are expected to rise to 6.9 million bales in crop year 1987. Projected exports drop in 1988 to 6.5 million bales, but slowly rise in later years, reaching 7.1 million bales in 1993. However, historical annual variability in cotton exports is extremely high. U.S. exports compete not only with foreign cotton production but also with foreign use of synthetics in textiles. In addition, the level of foreign textile output is sensitive to economic conditions and trade restrictions. World cotton trade is projected to grow, but at a slower pace than trade in the other major program commodities. The U.S. share of global trade is projected to be 27 percent over the projection period--roughly the average during the 1980-1985 period. However, projections of exports by U.S. competitors are highly tenuous. For example, China is poised to become either a major exporter or a significant importer, depending on official decisions regarding land use and foreign exchange spending for imports. The outlook for cotton export demand is further complicated by the fact that oil prices influence the competitiveness of synthetics.

Prices and Stocks. Ending stocks of cotton are estimated to fall to 4.8 million bales for the 1987 crop year and remain near that level during the projection period. The stocks-to-use ratio is projected to range between the 31 percent expected this year and 35 percent. Prices, buoyed by recent export demand, are likely to fall next year to just below $0.60 per pound and then rise steadily to almost $0.65. That level has been surpassed only twice, in the 1980 and 1983 crop years.

Government Costs

Outlays for the cotton program are projected to fall sharply from $2.14 billion in 1986 to $165 million in 1993 (see Table 13). Those figures represent only cash outlays; half of future deficiency payments are assumed to be made in generic certificates, most of which are expected to be redeemed for corn. The value of total cash and certificate payments for deficiency payments, net lending, and storage costs is projected to fall from $2.3 billion in 1986 to $0.3 billion in 1993. Declines are expected in each category. Deficiency payments are projected to fall as the payment rate drops from $0.26 per pound in crop year 1986 to under $0.04 in 1993, and as program participation falls. Furthermore, net lending outlays are expected to decline sharply and storage costs to fall to zero, with all stocks expected to be held by the private sector.

TABLE 13. UPLAND COTTON PROGRAM OUTLAYS
(By fiscal year, in millions of dollars)

	1987	Projected					
	Actual	1988	1989	1990	1991	1992	1993
Net Lending							
Loans Made	1,411	2,211	2,039	1,646	1,409	1,469	1,414
Cash Loans Repaid	-731	-1,984	-1,904	-1,526	-1,368	-1,398	-1,338
Net Loans	680	227	135	120	41	71	76
CCC Storage and Handling	117	1	0	0	0	0	0
Direct Cash Payments							
Advanced Deficiency	205	169	87	66	51	31	15
Regular Deficiency	724	0	207	186	143	117	75
Loan Deficiency	60	0	0	0	0	0	0
Total Outlays	1,786	397	429	372	236	220	165

SOURCE: Congressional Budget Office, February 1988 projections.

SOYBEANS

Recent increases in export demand have increased 1987 crop year prices for soybeans. Large cash sales of soybeans from the CCC inventory will probably ensure net soybean receipts to the CCC for 1988. In later years, soybean program costs are negative or minimal, when farmers repay nonrecourse loans at a faster rate than new loans are disbursed. Prices are expected to remain significantly above the loan rate, allowing the level of outstanding loans to fall throughout the projection period.

Government Programs

The soybean loan rate is expected to decline to the legislatively mandated minimum of $4.50 per bushel by crop year 1989 and remain frozen thereafter. The Secretary of Agriculture has the authority to operate a marketing loan for soybeans, but this discretion is assumed not to be used.

Supply and Demand

Production. Acreage planted to soybeans is expected to rise from the 11-year-low level of 57 million acres in crop year 1987 (see Table 14). However, no major expansion is expected over the baseline projection period: planted acreage ranges between 60 million and 61 million acres, a lower level than in every year from 1978 to 1985. Because the attractive benefits of the corn program are lost when switching to soybeans, no major shift in acreage from corn to soybeans is expected. In addition, acreage that could be added in the Southeast may be limited because of the high cost of bringing it back into soybean cultivation. Some acreage, however, is expected to be gained in areas where soybeans are double-cropped with soft red winter wheat. Yield is projected to rise to slightly over 35 bushels per acre by 1993, up from an average of 30 bushels so far in the 1980s. Total output is projected at almost 2.1 billion bushels by 1993, about the third highest ever and 10 percent above levels in 1987.

Use. Crushing of soybeans is expected to hit a record in the 1987 crop year of 1.19 billion bushels and remain around that level through

1990, before growing marginally thereafter. The crushing process yields soybean meal, which is used as a high protein animal feed, and soybean oil, which is used to produce vegetable oil and a variety of other food products.

Strong demand for meal and oil has supported soybean prices this season. Most soybean meal production is used by the domestic livestock industry, although exports have grown recently. Domestic meal use is rising this year, reflecting increased hog and poultry

TABLE 14. SOYBEAN SUPPLY AND USE (By crop year)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
				Millions of Acres				
Acres Planted	60.4	57.4	60.2	61.2	61.3	61.6	61.4	60.9
Acres Harvested	58.3	56.4	59.1	60.1	60.1	60.4	60.3	59.7
				Bushels per Acre				
Yield Per Harvested Acre	33.3	33.7	33.4	33.7	34.1	34.4	34.8	35.1
				Millions of Bushels				
Supply								
Beginning Stocks	536	436	293	248	242	243	236	230
Production	1,940	1,905	1,974	2,027	2,048	2,080	2,095	2,097
Total	2,476	2,341	2,267	2,275	2,290	2,322	2,332	2,326
Use								
Crushings for Oil and Meal	1,179	1,190	1,177	1,186	1,195	1,216	1,227	1,230
Seed, Feed, and Residual	104	96	96	96	96	96	96	96
Exports	757	760	747	751	756	773	779	778
Total	2,040	2,047	2,020	2,033	2,047	2,086	2,102	2,104
Ending Stocks	436	293	248	242	243	236	230	223
CCC-Owned Stocks	249	20	0	0	0	0	0	0
Outstanding CCC Loans	148	130	95	80	70	65	60	60
Free Stocks a/	39	144	153	162	173	171	170	163
				Dollars per Bushel				
Prices								
Farm Price	4.80	5.50	5.78	5.83	5.89	5.69	5.73	5.92
Loan Rate	4.77	4.77	4.53	4.50	4.50	4.50	4.50	4.50

SOURCE: Congressional Budget Office, February 1988 projections.

a. Privately held stocks not being used as collateral for government loans.

production that more than offsets lower meal exports. Soybean meal prices, supported by relatively strong use and the weak dollar, are expected to increase by between 10 percent and 15 percent this year from the crop year 1986 average of $162.70 per short ton. Soybean oil exports, which are expected to nearly double this year over last year, have supported oil prices. Oil prices are projected to rise 24 percent this year to $0.19 per pound.

Exports of soybeans are expected to fall slightly in the 1988 crop year and rise thereafter in line with economic growth and higher meat consumption abroad. The level of U.S. exports of soybeans and meal depends on the production of competitors in the world market (primarily Argentina and Brazil), the profitability of crushing soybeans in Western Europe, price competitiveness with feed grains, and the level of meal use for animal feed in the USSR. Increased commercialization of animal feeding abroad, especially in the poultry sector, and the limited production possibilities for soybeans in many countries should stimulate foreign demand for U.S. soybeans in the long run. With the use of soybeans directly affected by meat consumption and with relatively few direct trade barriers to U.S. exports, the outlook is correlated very closely with macroeconomic conditions.

Prices and Stocks. Soybean stocks at the end of crop year 1987 are expected to dip sharply from crop year 1986's near record level and to continue falling over the baseline period. For 1987, stocks are projected at under 300 million bushels, below the average for the 1980-1985 period. CCC inventories, which became significant in 1985 and 1986, are being depleted and all ending stocks are expected to be privately held. Though expected to rise 15 percent to $5.50 per bushel in crop year 1987, season average soybean prices are still low relative to the last half of the 1970s and the first half of the 1980s. Last year's $4.80 per bushel average was the lowest since 1972. Since stocks are expected to fall to only 12 percent of total use in 1988 and to decline slightly further thereafter, prices are projected to rise slowly in the projection period.

TABLE 15. SOYBEAN PROGRAM OUTLAYS
(By fiscal year, in millions of dollars)

	1987 Actual	Projected					
		1988	1989	1990	1991	1992	1993
Net Lending							
Loans Made	1,508	1,431	1,133	990	900	810	765
Cash Loans Repaid	-1,157	-1,472	-1,311	-1,050	-936	-824	-779
Net Loans	351	-41	-179	-60	-36	-14	-14
Inventory Management							
Storage and Handling	155	70	5	0	0	0	0
Sales	-1,065	-1,258	-115	0	0	0	0
Purchases	65	14	22	22	18	18	18
Other	19	0	0	0	0	0	0
Total Outlays	-476	-1,215	-267	-38	-18	4	4

SOURCE: Congressional Budget Office, February 1988 projections.

Government Costs

Outlays for the soybean program became significant in 1986 at $1.6 billion as farmers forfeited several hundred million bushels of 1985 crop loans to the CCC. However, large sales from the inventory in 1987 and 1988 produced net receipts for the soybean program (see Table 15). Sales are expected to continue into 1989 until the inventory is depleted. Small net receipts are expected in later years as strong soybean prices relative to loan rates give farmers little incentive to use the nonrecourse loan program. End-of-year outstanding loans decline as farmers repay old loans at a faster rate than they take out new loans.

DAIRY

Outlays for the dairy program are expected to decrease over the 1989-1993 period, in accordance with projected reduced milk support prices and lower government milk purchases (see Table 16). The dairy

TABLE 16. DAIRY SUPPLY AND USE, AND DAIRY PROGRAM OUTLAYS (By fiscal year)

	1987 Actual	Projected 1988	1989	1990	1991	1992	1993
				Supply			
Herd Size (Thousands)	10,481	10,385	10,318	10,176	10,139	10,091	10,045
Yield (Pounds per cow)	13,561	13,927	14,144	14,386	14,713	15,012	15,320
				(In billions of pounds)			
Beginning Commercial Stocks	5.1	5.4	5.4	5.4	5.4	5.4	5.4
Production	141.9	144.6	145.9	146.4	149.2	151.5	153.9
Imports	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Total	149.6	152.6	153.9	154.4	157.2	159.5	161.9
				Use (In billions of pounds)			
Commercial	136.4	138.5	141.2	143.5	145.9	148.3	150.8
Farm	2.6	2.5	2.5	2.4	2.4	2.4	2.4
CCC Net Removals a/	5.2	6.2	4.9	3.1	3.4	3.3	3.3
Ending Commercial Stocks	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Total	149.6	152.6	153.9	154.4	157.2	159.5	161.9
				Prices (In dollars per cwt)			
Support Price b/	11.35	10.60	10.10	9.60	9.60	9.60	9.60
All Milk Price c/	12.66	11.93	11.36	11.29	11.08	10.97	10.86
				Outlays (In millions of dollars)			
Purchases	956	1,041	776	459	487	468	467
Dairy Termination Payment	587	218	189	189	89	12	0
Cost of Red Meat Purchases	249	56	0	0	0	0	0
Assessments d/	-430	-57	-9	0	0	0	0
Net Other Costs	-195	-29	-6	-16	-2	5	5
Total	1,166	1,228	950	631	574	485	472

SOURCE: Congressional Budget Office, February 1988 projections.
NOTE: cwt = hundredweight.

a. Net purchase of dairy products (milk equivalents) for the purpose of supporting the farm price of milk.
b. Support prices are in effect for the 12 months following January 1 of each year.
c. Average price received by farmers for milk.
d. Offsetting receipts from farmers based on sales of milk.

cow herd will continue to decline, but the ratio of milk prices to feed prices will still be high, encouraging relatively high levels of milk production per cow.

Government Programs

The baseline assumes milk support price reductions of $0.50 per cwt in January 1989 and January 1990. The reductions are based on the expectation that CCC net purchases of dairy products during calendar years 1989 and 1990 would otherwise exceed 5 billion pounds of milk equivalents. The Omnibus Budget Reconciliation Act required dairy farmers to make a one-time payment of $0.025 per cwt of commercial milk sales made during calendar year 1988. No further such assessments are assumed in future years. The dairy termination program ended in September 1987, although payments to participating producers will continue through 1992. Dairy cattle slaughtered or exported under this program totaled 1.3 million head.

Supply and Demand

Production. Milk output is projected to expand throughout the projection period from nearly 145 billion pounds in 1988 to almost 154 billion pounds by 1990. However, annual production increases are expected to slow because of lower milk support prices and higher prices of concentrate feeds. Despite the previous support price cut, output in the last quarter of 1987 was strong--about 3 percent over the comparable quarter of 1986. The increase in total output even in the face of reduced cow numbers was caused by low feed prices, which allowed farmers to increase feed, and hence output, per cow. Production during the projection period is expected to grow but at lower rates than seen recently as the ratio of milk prices to feed prices declines, but still remains higher than in the mid-1980s.

The dairy cow herd in 1988 is projected to drop to 10.4 million head, slightly below the 1987 level. The number of dairy cows on January 1, 1988 was down 2 percent from 1987, and the number of dairy replacement heifers was down 5 percent.

Use. Consumption of milk and dairy products is projected to grow at a steady rate of close to 2 percent per year. Commercial use will be stimulated by lower market prices, since the support price is projected to be lowered through 1990. After 1990, market prices are projected to remain around $11 per cwt, substantially below those earlier in the 1980s. Commercial use also rises with growth in both population and real income over the baseline period.

Prices and Stocks. As support prices decline from $11.60 per cwt in 1986 to a projected $9.60 in 1990 through 1993, market prices also decline. CCC stocks of dairy products--cheese, butter, and nonfat dry milk--were low at the beginning of 1988, and some domestic and overseas donations and sales programs are being reduced. CCC net purchases will probably fall to somewhat over 3 billion pounds in the future and commercial stocks should stabilize at 5 billion to 6 billion pounds, less than 4 percent of commercial use.

Government Costs

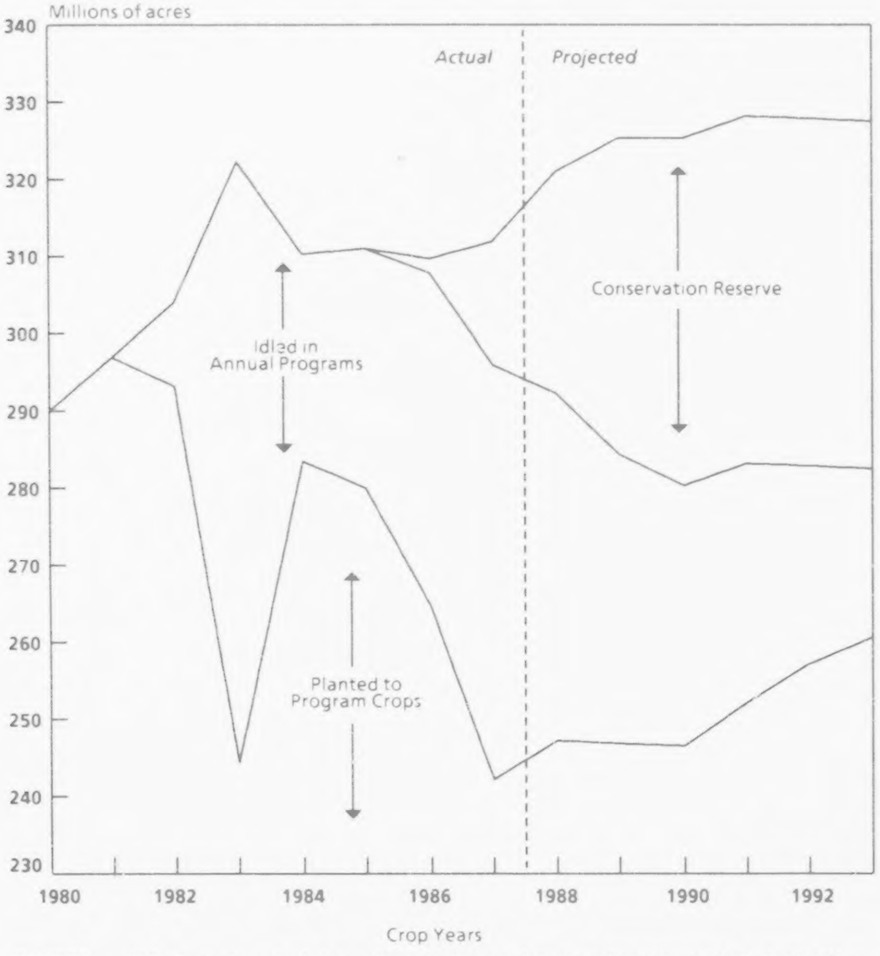
Outlays for the dairy program are projected to fall sharply from over $2.3 billion in 1986 to under $500 million in 1993. The outlays are virtually all from milk purchases, but costs of the dairy termination program will continue through 1992.

LAND USE

Planted acreage of major supported crops--feed grains, wheat, rice, cotton, and soybeans--is expected to rise gradually from the 1987 level but remain well below the level of the early 1980s (see Figure 2). Farmers are projected to increase plantings as the USDA reduces the size of acreage reduction programs and as the incentives to participate in government programs fall. The area planted to these crops reaches 260 million acres by 1993, up from 242 million acres in 1987.

Figure 2 also shows acreage idled in the government's annual acreage reduction programs (acreage reduction, paid diversion, and the 0/92 and 50/92 programs) and land in the conservation reserve. Land idled in annual programs will fall from 54 million acres in 1987 to 22 million acres in 1993, while land in the conservation reserve program will grow from 16 million acres to 45 million acres over the same period.

Figure 2.
Program Crop Acreage



SOURCE: U.S. Department of Agriculture historical data and Congressional Budget Office projections.

CHAPTER IV

CHANGING THE BASELINE ASSUMPTIONS

An unanticipated, one-time change in conditions assumed in the Congressional Budget Office baseline, and alternative assumptions about underlying trends in variables important to the baseline projections, can substantially alter the projections for Commodity Credit Corporation outlays. The examples chosen in this study are an unexpected summer 1988 drought, and higher and lower export paths. The drought is an example of a short-term supply shock--caused by poor weather, in this instance--that can have large effects on CCC outlays. The alternative export paths are examples of sustained changes in demand, which also can affect projected outlays.

The estimates of outlay effects depend heavily on the assumed actions of the U.S. Department of Agriculture as well as, of course, the extent and severity of the drought assumed and the magnitude of the differences in export demand. This analysis assumes that a one-time event, such as the drought, would not change the general strategy of the USDA programs. That is, programs would be managed in later years with the objective of maintaining the same competitive market price levels used in the baseline. The drought would, however, provide an opportunity to reduce excess government-owned corn stocks to make up part of the production shortfall. This release of stocks moderates the price rise that would normally result from a serious drought. The discussion below shows that the greater the amount of stocks released during the drought year, the smaller the outlay reduction associated with the drought.

In the case of changes that are viewed as more long term, such as the general trend of export demand, it is assumed that the USDA programs would incorporate a strategy, particularly in the form of price objectives, that is different from that of the baseline. In the higher export path case, the USDA is assumed to consider market prices somewhat higher than baseline levels as being competitive in this alternative market environment. The USDA is assumed to sell more stocks and limit acreage reduction programs, but only enough to accommodate partially the greater export demand, thereby leading to market price increases. The market price increases cause deficiency payments, and consequently CCC outlays, to fall. In the case of the low export path, the USDA programs are operated so that prices fall somewhat from baseline levels; as a result, deficiency payments and CCC outlays rise.

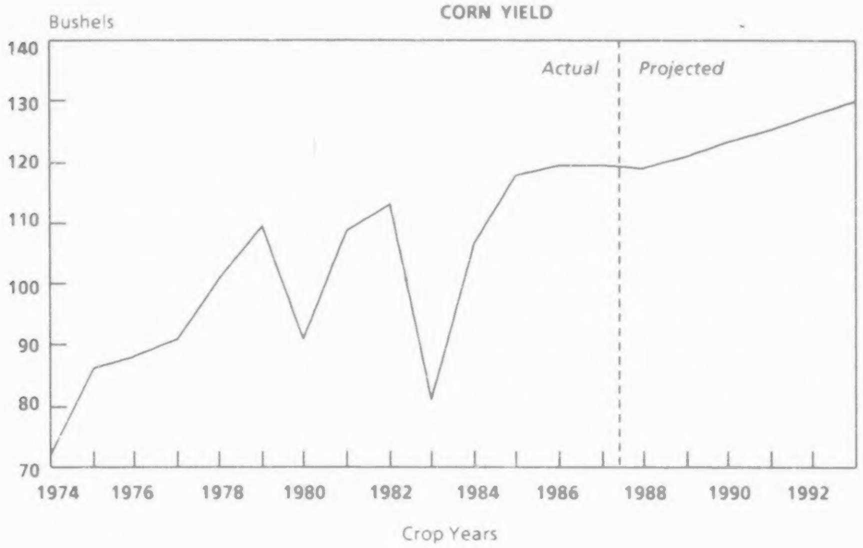
The critical importance of the USDA's decisions is underscored in the case of the export demand increase by the fact that outlays could rise rather than fall if the USDA had been assumed to accommodate fully the increased demand by limiting acreage reduction programs. The case of reduced export demand is roughly opposite that of increased demand. Outlays are shown to increase--given the assumed reaction of the USDA--but an alternative government response could lead to decreasing outlays even though demand decreased.

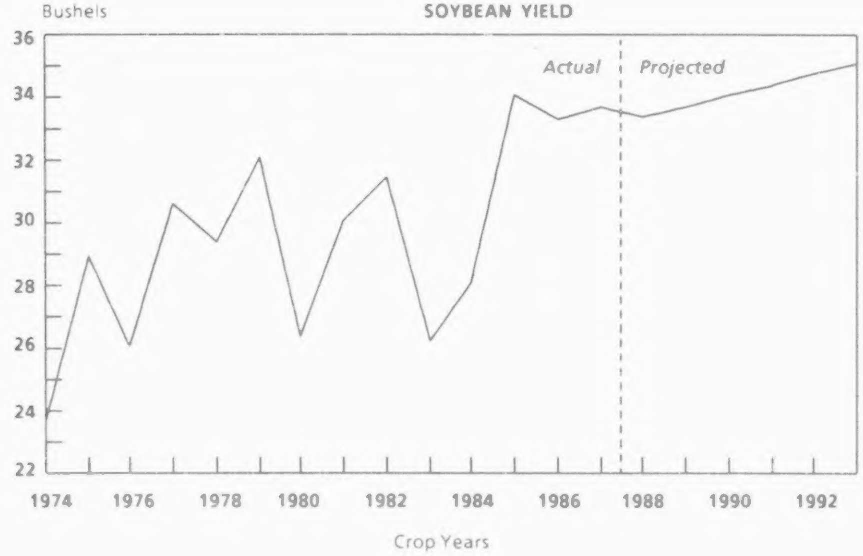
The drought is estimated to reduce CCC outlays by about $2.5 billion during 1989 (some of these savings might occur during 1988) and a total of between $2.1 billion and $4.4 billion over the 1988-1993 period. In the analysis of different export paths, the high export path leads to outlays that are $17.1 billion, or 18.7 percent, lower than the baseline over the 1988-1993 period. Over the same period, the lower export path used here increases outlays by $7.5 billion, or 8.2 percent, above baseline levels.

EXAMPLE OF A SUPPLY SHOCK: A SUMMER 1988 CORN BELT DROUGHT

A drought this summer is not included in the CBO projections, but the example serves to show how a variation in domestic weather might affect CCC outlays. This drought is assumed to be restricted to corn and soybean producing areas. Figure 3 shows actual and projected yields for corn and soybeans in the CBO baseline. Average weather conditions are assumed in the baseline, causing the smooth path of crop yields during the projection period. However, it is obvious from the historical yields shown that far greater variation in weather and yields will occur during the projection period than is reflected in baseline assumptions.

Figure 3.
Corn and Soybean Yields per Harvested Acre





SOURCE: U.S. Department of Agriculture historical data and Congressional Budget Office projections.

The Assumed Drought and Alternative USDA Responses

The drought assumed for this analysis causes national average corn and soybean yields to drop by 15 percent. The corn yield is 101 bushels per acre, compared with a baseline level of 119 bushels. The soybean yield is assumed to be 28.4 bushels per acre, rather than the 33.4 bushels assumed in the baseline. Yields in later years return to baseline levels. Corn production falls by 1.1 billion bushels and soybean production by 300 million bushels.

Soybeans. For soybeans, where government stocks are very low, the change in supplies available to the domestic market is nearly the same as the change in production, and soybean prices would rise markedly in response to the drought. The 1988 season average price in the baseline is $5.77 per bushel. Supplies reduced by the drought could raise this price to $8.00 or more per bushel. The soybean market price would be affected by government actions that influence the corn market. Generally, the more the USDA moderates the corn price rise by releasing CCC corn stocks, the smaller would be the increase in soybean prices, as a result of the general substitutability of the two crops in livestock feeds.

The drought would have little effect on soybean program outlays, though it would significantly affect the soybean market and soybean producers' incomes. The 1988 crop soybean price assumed in the baseline exceeds the nonrecourse loan rate and no forfeitures of nonrecourse loans are assumed to occur. There would therefore be no savings from reducing forfeitures. There are no deficiency payments in the soybean program, so the market price rise does not change direct payments as it would for other supported crops. The only outlay effect of the drought would be from the higher price obtained for the remaining CCC stocks sold during the end of 1988 and the beginning of 1989. These sales could amount to less than 20 million bushels and the added CCC receipts from selling them at a price higher than assumed in the baseline could be between $10 million and $30 million.

Corn. The effects of the drought on corn markets and corn program outlays are quite different because deficiency payments are made on corn (so market prices affect outlays) and because large government-controlled stocks exist. The USDA has a great deal of discretion in how it would react to the effects of the drought in corn. It is likely--and assumed here--that the drought would be used as an opportunity to reduce excess stocks. Concern that a sharp price rise would cause a setback in sales to foreign markets and pressure from domestic users to make government corn available would encourage this decision.

How much corn the USDA would release to the market is difficult to predict but, the more corn that is made available, the smaller would be the rise in market price. Three alternative levels of additional government corn released to the market are used in this analysis. All three alternatives assume large reductions in CCC stocks during the drought year. These alternatives are:

- Alternative 1. Over 1.1 billion bushels of additional government-controlled corn is released to the market. This amount makes up for the production shortfall and accommodates some increased demand resulting from the soybean price rise, so that the corn price remains at the level assumed in the baseline.

- Alternative 2. About 800 million bushels of additional CCC stocks are released, making up for less than the full production shortfall. As a result, season average corn prices rise by $0.25 per bushel.

- Alternative 3. About 600 million bushels of additional corn are released, leading to a $0.50 per bushel price rise for the 1988 crop year.

Alternative 1 is the least likely case, used here to show one end of the range of possible USDA responses. Alternative 3 is clearly not at the other extreme; USDA could take little or no action to moderate prices. But that seems very unlikely given existing burdensome stock levels as well as the USDA's actions this year, when it released wheat stocks in response to high export demand. In all three cases, prices are maintained at baseline levels in later years through the USDA's choices of paid land diversion programs and the continued sales of CCC stocks. This reflects an assumption that a drought in one year does not change the Secretary of Agriculture's notion of appropriate competitive price levels in later years. It also allows the analysis to show more clearly the effects of the drought and the importance of the USDA's reaction.

Effects on CCC Outlays

CCC outlays are significantly reduced in all three cases (see Table 17). Reductions total $2.1 billion through 1993 for Alternative 1, $3.9

TABLE 17. CHANGES IN CCC OUTLAYS RESULTING FROM A SUMMER 1988 DROUGHT REDUCING CORN AND SOYBEAN PRODUCTION (By fiscal year, in billions of dollars)

	1988	1989	1990	1991	1992	1993	Cumulative Six-Year Change
				Alternative 1			
Prices Held at Baseline Levels by Releasing CCC Stock	a/	-2.8	-0.5	b/	0.7	0.5	-2.1
				Alternative 2			
Less Grain Released, Allowing $0.25 per Bushel Price Rise	a/	-2.8	-1.8	-0.3	0.6	0.5	-3.9
				Alternative 3			
Even Less Grain Released, Allowing $0.50 per Bushel Price Rise	a/	-2.5	-2.8	-0.3	0.6	0.6	-4.4

SOURCE: Congressional Budget Office estimates.

a. Some of the outlay reductions shown in fiscal year 1989 would occur during the last months of fiscal year 1988 as the markets became aware of the extent of the drought and its implications for production.

b. Less than $50 million.

billion for Alternative 2, and $4.4 billion for Alternative 3. During this period, the more stocks the USDA releases to make up for the 1988 production shortfall, the smaller is the drought-related reduction in CCC outlays. Releasing more stocks causes less of an outlay reduction for two reasons. First, releasing more stocks causes prices to be lower and therefore deficiency payments to be higher for the 1988 crop year. Second, stocks released during the 1988 crop year are not available to be released later. If, as is assumed here, the Secretary operates farm programs to maintain prices at the competitive levels used in the baseline, then more production must be allowed in later years. More production is encouraged by reducing acreage reduction programs, which increases government spending.

Alternative 1. In Alternative 1, in which stock releases are enough to keep 1988 crop prices at baseline levels, 1989 savings are mostly caused by stock sales. Sales of stocks for generic commodity certificates do not directly cause cash receipts for the CCC, but rather use up certificates that would otherwise be redeemed mostly for outstanding nonrecourse loans. Reducing the value of certificates available for loan redemptions increases cash loan repayments, or reduces the volume of loans made, and reduces outlays in a way very similar to a cash sale.

About $0.5 billion of the 1989 savings in Alternative 1 is the result of eliminating the paid land diversion for the 1989 crop. The large reduction in stocks justifies removing this additional land diversion. This action initially reduces outlays because diversion payments that are assumed in the baseline to occur during the spring and summer of 1989 are not made in the alternative. Reducing the paid land diversion program, however, increases outlays in later years because more production is eligible for deficiency payments. Most of the costs and savings shown in Alternative 1 for 1990 through 1993 are caused by the elimination of paid land diversion programs, which are assumed in the baseline to continue through the 1992 crop year. Some CCC storage savings also appear in these later years. By the end of 1993, CCC stocks in the alternative are similar to those in the baseline. However, government stocks are disposed of earlier, leading to storage cost reductions.

The 1988 crop deficiency payment rate is unchanged from baseline levels in Alternative 1, since market prices do not change. This causes no savings in 1988 crop deficiency payments, which are made in 1989 and 1990. Though the deficiency payment rate is unchanged from the baseline in all crop years in this alternative, the amount of production on which payments are made increases because of reduced paid land diversions. This accounts for the increased costs shown in 1992 and 1993.

Alternative 2. The 1988 crop price for corn increases by $0.25 per bushel relative to the baseline in Alternative 2, because the CCC does not accommodate fully the effects of the drought by releasing stocks. Despite the price rise, outlay reductions in 1989 are approximately the same as for Alternative 1. Receipts for sales of CCC stocks in Alternative 2 are less than those in the first case because the amount of grain sold falls by proportionally more than the price increases. There are, however, additional savings in Alternative 2 in the generic commodity certificate program. In both the baseline and Alternative 1, the average posted county price (the price at which certificates can be redeemed) is assumed to be below the loan rate, meaning that farmers can generate additional profits (and expenses for the CCC) by redeeming nonrecourse loans. The $0.25 per bushel market price rise eliminates much of the government cost of certificate redemptions by driving the posted county price above the loan rate.

Outlay reductions from the baseline in 1990 and 1991 for this option stem from lower deficiency payments on the 1988 crop (which are paid out over several years), the net effects of reducing the paid land diversion program, and CCC storage savings. As was true in Alternative 1, costs in later years increase because smaller paid diversion programs mean that deficiency payments must be paid on more production.

Alternative 3. This alternative causes outlays to be reduced by more than the other cases, primarily because deficiency payments on the 1988 crop are reduced even more than in Alternative 2. Savings are lower in 1989 because less CCC grain is sold, even though it is sold at a slightly higher price.

The General Effects of a Drought on Government Outlays

The drought examined here affects specific crops at a time when excess stocks are available for corn, but not for soybeans. Even in a more general case, a domestic drought affecting production of any government-supported crop reduces CCC outlays in the near term. Outlays generally would fall because:

- Deficiency payments tend to fall. Payments fall if the drought causes market prices to rise to levels above the nonrecourse loan rate. The actual deficiency payment is based on program yield rather than actual yield, so the yield decline does not directly reduce payments.

- Nonrecourse loan program costs tend to fall. If the CCC would have been supporting the market price by accepting forfeitures of loan collateral in the wheat, feed grains, or soybean programs, then drought-reduced production would lower net lending costs. Costs fall as government takeovers of the crop fall--more outstanding nonrecourse loans would be repaid, increasing CCC receipts and reducing net outlays. Sufficiently large price increases could induce repayment of farmer-owned reserve loans, leading to lower net outlays in the current year. During the 1983 drought, prices rose above farmer-owned reserve release levels and many outstanding grain reserve loans were repaid.

- Marketing loan program costs tend to fall. If U.S. production shortfalls caused by drought lead to world price increases in cotton or rice--crops supported by marketing loans--then program costs would fall because the loan repayment rate would increase. Marketing loan costs would also fall with a reduced crop because less production would be available to go under loan and receive the marketing loan program benefits. If market prices are projected to be above the loan rate, then a drought affecting cotton or rice would change only deficiency payments.

- Dairy program costs could fall if drought-induced increases in feed prices or poor pasture conditions caused reduced milk output and lower government purchases of surplus milk.

As has been discussed for the specific case of corn, if the government has excess stocks and they are used to mitigate the effects of the drought on market prices, then the drought's near-term outlay consequences are changed. The more the government uses stocks to lessen the price increase, the smaller is the reduction in near-term government outlays caused by the drought. Increasing government stock sales during a drought causes immediate outlay reductions. However, in markets in which quantities demanded are not very responsive to price changes, these increased stock sales would lower market prices considerably. These lower prices would raise deficiency payment rates above what they would be without stock sales by enough to cause deficiency payment increases that more than offset the outlay reductions from selling the government stocks. The quantity of production receiving deficiency payments is based on program yield, not actual yield. So, in a drought year, the production shortfall does nothing to offset increased costs caused by higher deficiency payment rates.

Government costs in later crop years could also be affected by a drought and, in particular, by the government reaction to the drought. If government-owned stocks are used in the drought year to moderate a price rise, then they could not be sold in later years. The current baseline projection for corn assumes that market needs are satisfied partly by current-year production and partly by sale of government stocks throughout the period. If the drought-induced production shortfall is used by the USDA as an opportunity to reduce large quantities of excess stocks, and if the Secretary of Agriculture also wishes to maintain prices at the competitive levels assumed in the baseline, then greater crop production would be needed in later years. More production is achieved by reducing the paid land diversion program or by reducing the unpaid acreage reduction requirement. Either of these actions increases the acreage on which program payments are made and would increase government outlays. Increased deficiency payments caused by reducing paid land diversion programs are partly, but not fully, offset by reduced diversion payments.

Other federal program spending could also be affected by the drought, offsetting some of the CCC savings described above. Federal crop insurance program outlays would rise as indemnity payments are made to participating farmers. Farmers Home Administration outlays would also rise with increases in the volume of emergency disaster loans. Direct disaster payments could also be made to affected farmers at the discretion of the Secretary of Agriculture.

EXAMPLE OF A DEMAND SHIFT: CHANGES IN EXPORT DEMAND

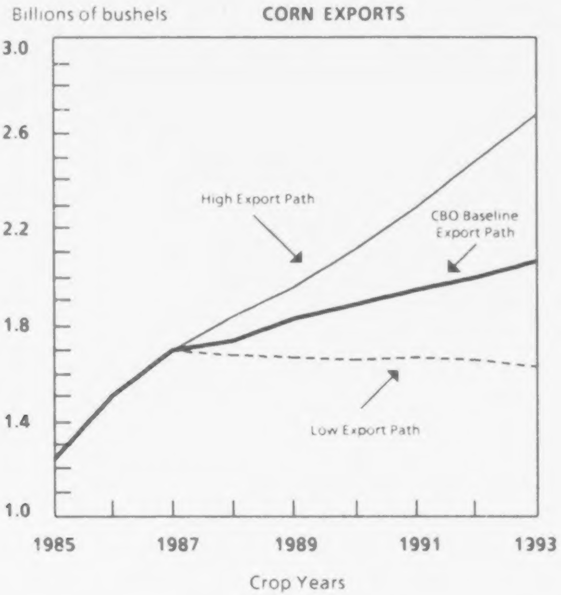
Projected CCC outlays would differ if demand for supported crops were assumed to be higher or lower than in the baseline. As discussed earlier, the CBO baseline assumes that the United States will maintain recent gains in quantities exported and, during most of the period, that exports will continue to expand. The path of exports could, of course, be higher or lower than assumed in the baseline. Stronger economic growth abroad, opening of currently restricted markets, greater depreciation of the dollar, or less production by competitors could lead to export gains in excess of those assumed in the baseline. Conditions and events moving in the opposite direction could lead to exports below the baseline path.

The High and Low Export Paths

The assumed high and low export paths for corn, wheat, rice, cotton and soybeans are shown in Figure 4, along with levels assumed in the baseline. The alternatives chosen are not based on specific assumptions about international market conditions, such as foreign income or population growth, but rather were selected by examining trends in earlier periods and by considering possibilities for expanding or contracting markets in the 1990s. In the baseline, export volumes for all crops fall short of records set in the late 1970s and early 1980s. The high growth alternative exceeds these earlier records for all crops except cotton, where it is considered less likely that previous export levels can be reached.

The low export path falls from current levels in all cases. For corn and soybeans, the high growth path exceeds the baseline by more than the low growth path falls short of the baseline. For these crops, relatively high growth could result from rising meat demand, which has a large potential for growth as incomes in the rest of the world continue to rise.

Figure 4.
Comparison of High and Low Export Paths for Corn, Wheat, Rice, Cotton, and Soybeans



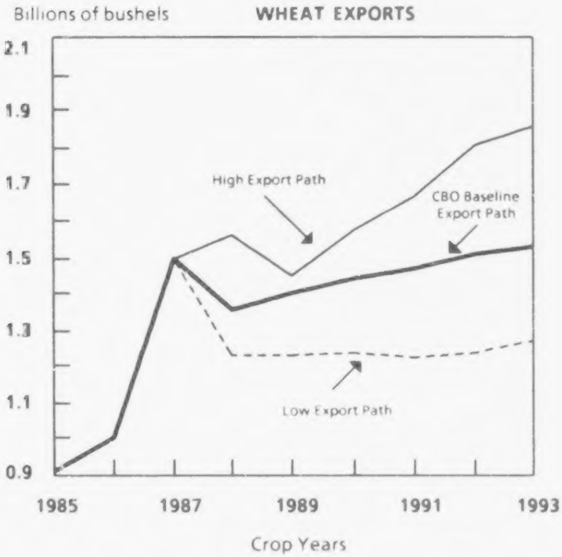
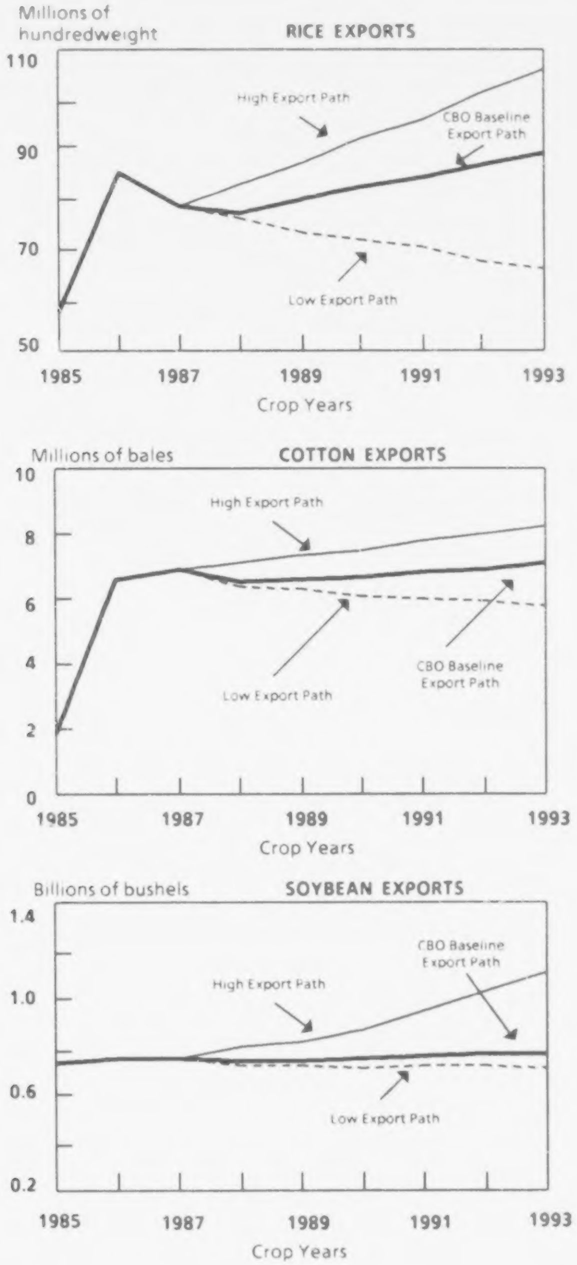


Figure 4.
(Continued)



SOURCE: U.S. Department of Agriculture historical data and Congressional Budget Office projections.

For corn, total exports assumed in the high path over the 1988-1993 period exceed the baseline by 17 percent and the low path is 13 percent below the baseline. Over the same period, the high path for wheat is 14 percent above and the low path 15 percent below the baseline. Corresponding figures for rice are 13 percent and 15 percent; for cotton they are 13 percent and 10 percent, and for soybeans they are 23 percent and 5 percent.

Estimated Effects on Outlays

Table 18 summarizes the effects on projected CCC outlays of the high and low export growth paths. Tables 19 through 23 contain additional detail on exports, market prices, and assumed acreage reduction programs for each of the crops.

In the high export path case, market prices are assumed to rise with the increase in demand, leading to reduced deficiency payments in all crops except soybeans (for which there is no deficiency payment program). In the soybean program, outlays are reduced in early years as a result of higher prices that cause lower levels of outstanding nonrecourse loans.

In the corn and wheat programs, 1989 savings are affected by presumed sales of CCC stocks. Since the 1988 crop acreage reduction programs are already announced, demand during the 1988 crop year (which generally coincides with the 1989 fiscal year) cannot be met by increasing production. Greater certificate sales of CCC stocks are assumed to meet part of the greater export demand. Deficiency payment savings in later years--caused by market price rises reducing the deficiency payment rates--are partly offset by the limitation of the acreage reduction programs, which raises the amount of production on which deficiency payments are made. Savings in later years in the feed grain programs are greater because rising prices lead to declining program participation. Some producers respond to rising prices by leaving the program. They give up the deficiency payment and other program benefits, but are not restricted in the amount of land they can plant to the crops.

In the case of the low export path, outlays increase because prices fall, raising deficiency payment rates, and because the rate at which CCC stocks are sold (or exchanged for generic certificates) is assumed to be reduced. Outlays also increase because lower market prices tend to encourage higher program participation. These increases are partly offset by higher unpaid acreage reduction requirements than are assumed in the baseline. By the 1993 crop, for example, the wheat

TABLE 18. CHANGES IN CCC OUTLAYS RESULTING FROM HIGHER AND LOWER EXPORT PATHS
(By fiscal year, in millions of dollars)

	1988	1989	1990	1991	1992	1993	Six-Year Total
				CBO Baseline			
Total CCC Outlays	17,032	17,351	17,022	15,275	12,777	11,844	91,301
				High Export Path			
Change in Outlays for:							
Corn and Other Feed Grains	0	-943	-1,887	-2,210	-2,044	-2,677	-9,761
Wheat	-41	-1,436	-1,609	24	-208	-772	-4,042
Rice	0	-8	-94	-422	-520	-578	-1,622
Cotton	0	-358	-353	-325	-224	-116	-1,376
Soybeans	0	-168	-68	-92	20	20	-288
Total Change	-41	-2,913	-4,011	-3,025	-2,976	-4,123	-17,089
Total CCC Outlays	16,991	14,438	13,011	12,250	9,801	7,721	74,212
				Low Export Path			
Change in Outlays for:							
Corn and Other Feed Grains	0	138	507	1,055	1,840	1,511	5,051
Wheat	0	287	112	116	308	270	1,093
Rice	0	43	47	70	72	12	244
Cotton	0	23	66	223	290	474	1,076
Soybeans	0	0	0	0	0	0	0
Total Change	0	491	732	1,464	2,510	2,267	7,464
Total CCC Outlays	17,032	17,842	17,754	16,739	15,287	14,111	98,765

SOURCE: Congressional Budget Office estimates and February 1988 projections.

TABLE 19. COMPARISON OF HIGH AND LOW EXPORT PATHS FOR CORN

	Crop Year					
	1988	1989	1990	1991	1992	1993
Exports (Billions of bushels)						
High Export Path	1.84	1.96	2.11	2.29	2.47	2.67
CBO Baseline	1.75	1.83	1.89	1.94	1.99	2.05
Low Export Path	1.68	1.67	1.66	1.67	1.66	1.63
Price (Dollars per bushel)						
High Export Path	1.84	1.86	1.90	1.95	2.01	2.08
CBO Baseline	1.78	1.67	1.68	1.72	1.73	1.72
Low Export Path	1.79	1.67	1.64	1.62	1.66	1.67
Acreage Reduction (Percent of base acreage)						
High Export Path						
ARP	20	20	20	20	20	20
PLD	10	10	5	0	0	0
CBO Baseline						
ARP	20	20	20	20	20	20
PLD	10	10	10	10	5	0
Low Export Path						
ARP	20	20	20	20	20	20
PLD	10	10	10	10	10	7.5

	Fiscal Year					
	1988	1989	1990	1991	1992	1993
Outlays a/ (Billions of dollars)						
High Export Path	8.29	7.35	6.39	4.97	3.44	2.53
CBO Baseline	8.29	8.22	8.15	7.04	5.34	5.05
Low Export Path	8.29	8.35	8.62	8.02	7.04	6.49
Outlay Difference (Billions of dollars)						
High Export Path	0	-0.87	-1.76	-2.06	-1.90	-2.52
Low Export Path	0	0.13	0.47	0.99	1.71	1.44

SOURCE: Congressional Budget Office estimates and February 1988 projections.

NOTE: ARP = acreage reduction program; PLD = paid land diversion.

a. Outlays adjusted to include cost of generic certificates being issued in one crop program but redeemed in another.

TABLE 20. COMPARISON OF HIGH AND LOW EXPORT PATHS FOR WHEAT

	Crop Year					
	1988	1989	1990	1991	1992	1993
Exports (Billions of bushels)						
High Export Path	1.56	1.45	1.57	1.67	1.80	1.86
CBO Baseline	1.35	1.40	1.44	1.47	1.51	1.52
Low Export Path	1.23	1.23	1.24	1.22	1.23	1.27
Price (Dollars per bushel)						
High Export Path	2.88	3.94	3.32	3.46	3.38	3.77
CBO Baseline	2.70	2.78	2.85	2.90	2.93	2.98
Low Export Path	2.70	2.69	2.68	2.78	2.65	2.51
Acreage Reduction Program (Percent of base acreage)						
High Export Path	27.5	10	0	0	0	0
CBO Baseline	27.5	20	15	10	7.5	7.5
Low Export Path	27.5	27.5	25	20	25	27.5

	Fiscal Year					
	1988	1989	1990	1991	1992	1993
Outlays a/ (Billions of dollars)						
High Export Path	1.65	0.40	0.22	1.70	1.31	0.67
CBO Baseline	1.69	1.83	1.83	1.67	1.52	1.45
Low Export Path	1.69	2.12	1.94	1.79	1.83	1.72
Outlay Difference (Billions of dollars)						
High Export Path	-0.04	-1.44	-1.61	0.02	-0.21	-0.77
Low Export Path	0	0.29	0.11	0.12	0.31	0.27

SOURCE: Congressional Budget Office estimates and February 1988 projections.

a. Outlays adjusted to include cost of generic certificates being issued in one crop program but redeemed in another.

TABLE 21. COMPARISON OF HIGH AND LOW EXPORT PATHS FOR RICE

	Crop Year					
	1988	1989	1990	1991	1992	1993
Exports (Millions of cwt)						
High Export Path	83.0	87.1	91.5	96.0	100.8	105.9
CBO Baseline	77.5	80.0	82.5	84.5	87.0	89.5
Low Export Path	76.5	74.0	72.1	70.3	68.6	66.9
Price (Dollars per cwt)						
High Export Path	8.85	8.32	8.96	9.59	10.10	10.61
CBO Baseline	8.75	6.56	6.63	6.69	6.75	6.81
Low Export Path	8.36	6.08	5.85	5.57	5.29	5.11
Acreage Reduction Program (Percent of base acreage)						
High Export Path	25	17.5	17.5	15	12.5	10
CBO Baseline	25	20	20	20	17.5	15
Low Export Path	25	20	22.5	25	27.5	30

	Fiscal Year					
	1988	1989	1990	1991	1992	1993
Outlays a/ (Millions of dollars)						
High Export Path	690	496	721	372	230	161
CBO Baseline	690	504	815	794	750	739
Low Export Path	690	547	862	864	822	751
Outlay Difference (Millions of dollars)						
High Export Path	0	-8	-94	-422	-520	-578
Low Export Path	0	43	47	70	72	12

SOURCE: Congressional Budget Office estimates and February 1988 projections.

NOTE: cwt = hundredweight.

a. Outlays adjusted to include cost of generic certificates being issued in one crop program but redeemed in another.

TABLE 22. COMPARISON OF HIGH AND LOW EXPORT PATHS FOR COTTON

	Crop Year					
	1988	1989	1990	1991	1992	1993
Exports (Millions of bales)						
High Export Path	7.1	7.3	7.5	7.8	8.0	8.2
CBO Baseline	6.5	6.6	6.7	6.8	6.9	7.1
Low Export Path	6.4	6.3	6.1	6.0	5.9	5.8
Price (Dollars per pound)						
High Export Path	0.640	0.670	0.680	0.690	0.700	0.710
CBO Baseline	0.594	0.607	0.612	0.628	0.644	0.649
Low Export Path	0.589	0.560	0.530	0.505	0.485	0.470
Acreage Reduction Program (Percent of base acreage)						
High Export Path	12.5	15	15	12.5	12.5	10
CBO Baseline	12.5	15	15	15	15	15
Low Export Path	12.5	20	17.5	17.5	17.5	15

	Fiscal Year					
	1988	1989	1990	1991	1992	1993
Outlays a/ (Millions of dollars)						
High Export Path	1024	365	271	106	145	139
CBO Baseline	1024	723	624	431	369	255
Low Export Path	1024	746	690	654	659	729
Outlay Difference (Millions of dollars)						
High Export Path	0	-358	-353	-325	-224	-116
Low Export Path	0	23	66	223	290	474

SOURCE: Congressional Budget Office estimates and February 1988 projections.

a. Outlays adjusted to include cost of generic certificates being issued in one crop program but redeemed in another.

TABLE 23. COMPARISON OF HIGH AND LOW EXPORT PATHS FOR SOYBEANS

	Crop Year					
	1988	1989	1990	1991	1992	1993
Exports (Millions of bushels)						
High Export Path	806	832	888	948	1,034	1,120
CBO Baseline	747	751	756	773	779	778
Low Export Path	731	727	721	725	726	718
Price (Dollars per bushel)						
High Export Path	6.22	7.25	7.80	8.20	8.43	9.01
CBO Baseline	5.78	5.83	5.89	5.69	5.73	5.92
Low Export Path	5.51	5.50	5.54	5.11	5.01	5.21

	Fiscal Year					
	1988	1989	1990	1991	1992	1993
Outlays a/ (Millions of dollars)						
High Export Path	-1,230	-447	-119	-122	13	13
CBO Baseline	-1,230	-279	-51	-30	-7	-7
Low Export Path	-1,230	-279	-51	-30	-7	-7
Outlay Difference (Millions of dollars)						
High Export Path	0	-168	-68	-92	20	20
Low Export Path	0	0	0	0	0	0

SOURCE: Congressional Budget Office estimates and February 1988 projections.

a. Outlays adjusted to include cost of generic certificates being issued in one crop program but redeemed in another.

acreage reduction program is assumed to be 7.5 percent of base acreage in the baseline, but 27.5 percent of base acreage in the low export path.

There is a large difference between the outlay reduction from the high export path and the outlay increase associated with the low export path, particularly during the first two years. Most of this difference is because the current CCC stock situation in wheat and feed grains provides the USDA with an opportunity to immediately capture the benefits of increased demand by selling excess grain. Relative to baseline assumptions, there is more room to increase grain sales to satisfy increased demand (and thus reduce outlays) than to reduce grain sales following a drop in export demand (and, consequently, increase outlays). In addition, part of this difference is caused by the lack of symmetry of the alternative export paths, particularly in corn and soybeans. The choice of high and low export paths in these crops reflects the assumption that the baseline export path is more likely to understate actual exports by a given amount than to overstate exports by the same amount.

General Effects of Demand Increases and Alternative USDA Reactions

When demand for a commodity increases, prices rise, causing lower CCC outlays in supported crops because deficiency payment rates drop. However, the CCC may intervene in various ways in response to the demand shift, and this intervention would be expected to affect prices. In some instances, a demand increase would not affect (or would have a much smaller effect on) prices. For example:

- In times of excess production, when market prices are supported by the USDA's nonrecourse loan program, prices may not rise (or rise by as much) if demand increases. Rather, increased demand would mean that the USDA acquires less of the crop through loan forfeitures. In this instance, CCC outlays would not be reduced (or not be reduced as much) because of a market price rise, but would drop because nonrecourse loan program costs decline.

- When the USDA holds excess stocks, increases in demand could be met by releasing government-owned stocks to the market. Again, this would relieve the upward pressure on prices. Selling stocks, or exchanging them for generic certificates, reduces CCC outlays.

- If there is excess capacity, as indicated by large acreage reduction programs, an expected increase in demand could be met by reducing the amount of land idled under acreage reduction and paid land diversion programs. Greater pro-

> duction would relieve the upward pressure of increased demand on market prices. But relaxing the unpaid acreage reduction requirements of commodity programs, or offering a smaller paid diversion program, tends to increase CCC outlays, as long as market prices are lower than target prices.

The last example, allowing greater current production in response to an expected higher level of demand, means that an increase in demand could lead to higher rather than lower CCC outlays. For example, if the USDA wanted to maintain prices at baseline levels to keep competitive pressure on foreign suppliers, and if government-owned stocks had been depleted, prices could be kept at or near baseline levels only by allowing greater production. If prices were kept exactly at baseline levels by increasing production, then deficiency payment rates would be unchanged from the baseline, but the amount of production on which deficiency payments were made would have increased. This would lead to higher CCC outlays.

The Secretary of Agriculture's ability to increase production by reducing acreage reduction programs is limited by the size of the existing programs. Some of the land in the conservation reserve might be brought back into production under certain conditions. When all government restrictions on plantings are eliminated, it becomes more difficult for the USDA to act to mitigate demand-induced price increases.

Thus, there is no unique direction of effect of increased export demand on CCC outlays. If the Secretary tried to maintain the competitive price levels of the baseline, even in light of greater demand, and if excess stocks were depleted, the greater demand would have to be accommodated through more production and outlays could increase rather than decrease. The case of lower demand could also increase or reduce CCC outlays, depending on decisions made by the Secretary. Lower demand would probably lead to higher outlays. However, lower outlays could result if acreage reduction programs were adjusted so that output was reduced by the same amount that demand declined, leading to no change in market prices.

APPENDIX

WORLD TRADE ASSUMPTIONS FOR SUPPORTED FARM COMMODITIES

Tables A-1 through A-7 provide details of assumptions underlying the export projections for corn, wheat, rice, cotton, and soybeans. The global trade tables for each commodity give projections for major competitors and major markets through 1993.

Both the global level and the U.S. share of commodity trade are expected to improve in the 1987-1993 period compared with the early and mid-1980s. Projected annual growth rates for total world trade range from about 1.5 percent for cotton to 4 percent for corn. From 1980 to 1985, trade levels had fallen for these commodities, but lower prices, a weak dollar exchange rate, and assumed moderate economic growth combined with a manageable debt-financing scenario should stimulate continued global trade gains. Actual levels of total trade for these commodities will, of course, depend on the prices of these commodities and of their substitutes (especially for cotton), on production decisions, and on the weather in producing countries. Since trade in commodities is heavily influenced by production and trade policies in various countries, any bilateral or multilateral trade agreements will influence trade levels in future years. No major changes are incorporated in these forecasts, but they assume some retrenchment in domestic production subsidies, especially in the European Community.

For each of the commodities, the U.S. share of world trade in the early 1990s is expected to equal or exceed the 1980-1985 average. Record high trade shares experienced in particular years are not expected to be maintained in this baseline projection. However, with a large reservoir of land taken out of production in annual programs and in the long-term conservation reserve program, the United States has the ability to respond rapidly to a surge in demand and raise its share of global trade in the short run.

TABLE A-1. WORLD CORN TRADE ASSUMPTIONS IN THE CBO BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
Exports								
United States	39.4	43.2	44.4	46.4	48.1	49.3	50.6	52.1
Major Competitors								
Argentina	4.0	4.5	3.1	3.9	5.1	6.8	8.4	9.7
China	3.8	3.5	3.5	3.2	3.0	2.8	2.6	2.4
South Africa	2.6	1.5	1.8	1.5	1.5	1.5	1.5	1.5
Thailand	2.5	0.9	2.0	2.5	2.7	2.9	3.1	3.3
Subtotal	12.9	10.4	10.4	11.1	12.3	14.0	15.6	16.9
Rest of World	4.0	3.1	3.5	3.1	2.6	2.2	1.9	1.8
Total	56.3	56.7	58.3	60.6	63.0	65.6	68.2	70.9
U.S. Share (In percent)	70	76	76	77	76	75	74	74
Imports								
Major Importers								
China	1.6	1.5	2.3	3.0	3.8	4.7	5.2	5.7
Eastern Europe	1.6	3.1	2.7	2.9	3.1	3.3	3.5	3.7
European Community	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Japan	16.1	16.7	17.1	17.6	18.1	18.6	19.1	9.6
USSR	8.3	6.8	7.5	8.5	9.5	10.5	11.5	12.5
Subtotal	30.4	31.1	32.6	35.0	37.5	40.1	42.3	44.5
Rest of World	25.9	25.6	25.7	25.6	25.5	25.5	25.9	26.4
Total	56.3	56.7	58.3	60.6	63.0	65.6	68.2	70.9

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world corn trade year begins in October; for example, the 1988 trade year will run from October 1988 through September 1989.

European Community trade excludes trade within the EC.

TABLE A-2. WORLD WHEAT TRADE ASSUMPTIONS IN THE CBC BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
				Exports				
United States	28.2	40.8	36.7	38.2	39.2	40.0	41.1	41.4
Major Competitors								
Argentina	4.3	5.3	5.5	6.0	6.5	7.0	7.3	7.6
Australia	14.8	12.3	14.5	14.8	15.1	15.4	15.7	16.0
Canada	20.8	22.0	21.0	21.0	21.6	23.0	24.1	25.7
European Community	16.4	14.5	15.0	15.5	15.5	15.0	15.0	15.0
Subtotal	56.3	54.1	56.0	57.3	58.7	60.4	62.1	64.3
Rest of World	6.7	5.8	5.2	4.9	4.9	5.0	4.9	5.0
Total	91.3	100.7	97.9	100.4	102.9	105.4	108.1	110.8
U.S. Share (In percent)	31	41	38	38	38	38	38	37
				Imports				
Major Importers								
China	8.5	12.0	12.5	13.5	14.5	15.5	16.5	17.5
Egypt	6.5	6.7	7.0	7.2	7.5	7.7	8.0	8.2
European Community	2.4	2.5	2.3	2.3	2.3	2.3	2.3	2.3
Japan	5.8	5.4	5.5	5.7	5.9	6.1	6.3	6.5
USSR	16.0	20.5	18.0	16.0	15.0	14.0	13.0	12.0
Subtotal	39.2	47.1	45.3	44.7	45.2	45.6	46.1	46.5
Rest of World	52.1	53.6	52.7	55.7	57.7	59.8	62.0	64.3
Total	91.3	100.7	97.9	100.4	102.9	105.4	108.1	110.8

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world wheat trade year begins in July; for example, the 1988 trade year will run from July 1988 through June 1989.

European Community trade excludes trade within the EC.

TABLE A-3. WORLD MILLED RICE TRADE ASSUMPTIONS IN THE CBO BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
				Exports				
United States	2.40	2.44	2.70	2.78	2.86	2.95	3.04	3.13
Major Competitors								
Australia	0.40	0.35	0.40	0.38	0.35	0.32	0.30	0.27
Burma	0.64	0.50	0.40	0.50	0.50	0.50	0.50	0.50
China	0.95	1.00	1.30	1.00	1.00	1.00	1.00	1.00
European Community	1.14	1.00	1.00	0.90	0.80	0.70	0.60	0.50
Pakistan	1.15	1.23	1.10	1.10	1.13	1.17	1.20	1.24
Thailand	4.34	4.35	1.80	3.00	3.50	4.00	4.00	4.00
Subtotal	8.61	8.43	6.00	6.88	7.28	7.69	7.60	7.51
Rest of World	1.74	1.67	1.72	1.98	1.83	1.70	2.07	2.45
Total	12.75	12.54	10.42	11.63	11.98	12.34	12.71	13.09
U.S. Share (in percent)	19	19	26	24	24	24	24	24
				Imports				
Major Importers								
European Community	1.34	1.10	1.07	0.97	0.87	0.77	0.67	0.57
Indonesia	-0.22	-0.10	0.00	0.00	0.10	0.15	0.20	0.25
Iran	0.45	1.00	0.55	0.60	0.61	0.62	0.64	0.65
Iraq	0.50	0.55	0.45	0.50	0.52	0.53	0.55	0.56
Nigeria	0.32	0.40	0.30	0.30	0.31	0.32	0.33	0.34
Subtotal	2.39	2.95	2.37	2.37	2.41	2.39	2.38	2.37
Rest of World	10.36	9.59	8.05	9.26	9.58	9.95	10.33	10.72
Total	2.75	12.54	10.42	11.63	11.98	12.34	12.71	13.09

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world milled rice trade year begins in January, and is the same as a calendar year.

European Community trade excludes trade within the EC.

TABLE A-4. WORLD COTTON TRADE ASSUMPTIONS IN THE CBO BASELINE (By trade year, in thousands of bales)

	1986 Actual	Projected 1987	1988	1989	1990	1991	1992	1993
					Exports			
United States (Upland Cotton)	6,570	6,700	6,500	6,600	6,700	6,800	6,900	7,100
Major Competitors								
China	3,169	1,850	1,950	2,050	2,150	2,250	2,350	2,450
Egypt	598	435	500	550	600	650	700	750
Mexico	235	425	475	525	550	575	600	625
Pakistan	2,885	2,950	3,000	3,050	3,100	3,150	3,200	3,250
Paraguay	350	600	500	500	525	550	575	600
Sudan	900	900	700	750	800	850	900	950
Turkey	510	250	500	525	550	575	600	625
USSR	3,100	2,800	2,700	2,600	2,500	2,400	2,300	2,200
Subtotal	11,747	10,210	10,325	10,550	10,775	11,000	11,225	11,450
Rest of World	7,513	7,220	7,178	7,304	7,234	7,238	7,259	7,244
Total	25,830	24,130	24,003	24,454	24,709	25,038	25,384	25,794
U.S. Share (In percent)	25	28	27	27	27	27	27	28
					Imports			
Major Importers								
China	50	100	100	100	100	100	100	100
Eastern Europe	3,547	3,628	3,653	3,678	3,70	3,728	3,753	3,778
European Community	5,640	5,260	5,310	5,360	5,410	5,460	5,510	5,560
Hong Kong	1,508	1,400	1,450	1,500	1,550	1,600	1,650	1,700
Indonesia	919	825	800	810	820	830	840	850
Japan	3,686	3,350	3,375	3,400	3,425	3,450	3,475	3,500
South Korea	1,901	1,300	1,850	1,900	1,950	2,000	2,050	2,100
Taiwan	2,357	1,550	1,600	1,650	1,700	1,750	1,800	1,850
Subtotal	19,608	17,913	18,138	18,398	18,658	18,918	19,178	19,438
Rest of World	6,222	6,217	5,865	6,056	6,051	6,120	6,206	6,356
Total	25,830	24,130	24,003	24,454	24,709	25,038	25,384	25,794

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world cotton trade year begins in in August; for example, the 1988 trade year will run from August 1988 through July 1989.

European Community trade excludes trade within the EC.

TABLE A-5. WORLD SOYBEAN TRADE ASSUMPTIONS (EXCLUDING MEAL AND OIL) IN THE CBO BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
				Exports				
United States	20.60	20.68	20.33	20.44	20.58	21.04	21.20	21.17
Major Competitors								
Argentina	1.35	2.20	2.20	2.30	2.40	2.55	2.70	2.85
Brazil	3.35	3.00	3.20	3.64	4.10	4.33	4.39	4.28
Subtotal	4.70	5.20	5.40	5.94	6.50	6.88	7.09	7.13
Rest of World	3.36	3.01	2.51	2.01	1.51	1.31	1.16	1.11
Total	28.66	28.89	28.24	28.39	28.58	29.22	29.45	29.41
U.S. Share (In percent)	72	72	72	72	72	72	72	72
				Imports				
Major Importers								
Eastern Europe	0.75	0.84	0.84	0.84	0.84	0.84	0.84	0.84
European Community	14.34	13.27	13.17	13.07	12.97	12.87	12.77	12.67
Japan	4.87	4.85	5.05	5.25	5.45	5.65	5.85	6.05
Mexico	1.10	1.15	1.15	1.15	1.15	1.15	1.15	1.15
South Korea	0.99	1.06	1.16	1.26	1.36	1.46	1.56	1.66
Taiwan	2.01	1.90	2.05	2.20	2.35	2.50	2.65	2.80
USSR	1.10	1.80	1.40	1.50	1.60	1.70	1.80	1.90
Subtotal	25.16	24.87	24.82	25.27	25.72	26.17	26.62	27.07
Rest of World	3.50	4.02	3.42	3.12	2.86	3.05	2.83	2.34
Total	28.66	28.89	28.24	28.39	28.58	29.22	29.45	29.41

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world soybean trade year begins in October; for example, the 1988 trade year will run from October 1988 through September 1989.

European Community trade excludes trade within the EC.

TABLE A-6. WORLD SOYBEAN MEAL TRADE ASSUMPTIONS IN THE CBO BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
				Exports				
United States	6.66	6.08	6.33	7.08	7.34	7.60	7.86	8.12
Major Competitors								
Argentina	3.32	4.43	4.93	5.43	5.93	6.43	6.93	7.43
Brazil	8.37	7.95	8.20	8.45	8.70	8.95	9.20	9.45
European Community	5.15	4.75	5.00	4.75	4.99	5.08	5.12	5.16
Subtotal	16.84	17.13	18.13	18.63	19.62	20.46	21.25	22.04
Rest of World	1.96	2.02	1.77	1.52	1.27	1.17	1.12	1.07
Total	25.46	25.23	26.23	27.23	28.23	29.23	30.23	31.23
U.S. Share (In percent)	26	24	24	26	26	26	26	26
				Imports				
Major Importers								
Eastern Europe	3.89	4.00	4.10	4.20	4.30	4.40	4.50	4.60
European Community	13.64	13.03	12.83	12.63	12.43	12.23	12.03	11.83
USSR	2.60	3.20	3.70	4.20	4.70	5.20	5.70	6.20
Subtotal	20.13	20.23	20.63	21.03	21.43	21.83	22.23	22.63
Rest of World	5.33	5.00	5.60	6.20	6.80	7.40	8.00	8.60
Total	25.46	25.23	26.23	27.23	28.23	29.23	30.23	31.23

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world soybean trade year begins in October; for example, the 1988 trade year will run from October 1988 through September 1989.

European Community trade excludes trade within the EC.

TABLE A-7. WORLD SOYBEAN OIL TRADE ASSUMPTIONS IN THE CBO BASELINE (By trade year, in millions of metric tons)

	1986	Projected						
	Actual	1987	1988	1989	1990	1991	1992	1993
Exports								
United States	0.54	1.00	0.98	0.97	1.00	1.03	1.06	1.09
Major Competitors								
Argentina	0.73	0.90	0.93	0.97	1.01	1.04	1.08	1.13
Brazil	0.95	0.77	0.80	0.83	0.86	0.89	0.93	0.96
European Community	1.50	1.28	1.33	1.38	1.43	1.49	1.54	1.60
Subtotal	3.18	2.95	3.06	3.18	3.30	3.42	3.55	3.69
Rest of World	0.19	0.20	0.23	0.26	0.24	0.22	0.20	0.18
Total	3.91	4.15	4.27	4.40	4.53	4.67	4.81	4.96
U.S. Share (In percent)	14	24	23	22	22	22	22	22
Imports								
Major Importers								
China	0.40	0.38	0.48	0.58	0.68	0.78	0.88	0.98
European Community	0.52	0.45	0.45	0.45	0.45	0.45	0.45	0.45
India	0.36	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Pakistan	0.19	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Subtotal	1.47	1.73	1.83	1.93	2.03	2.13	2.23	2.33
Rest of World	2.44	2.42	2.44	2.47	2.50	2.54	2.58	2.63
Total	3.91	4.15	4.27	4.40	4.53	4.67	4.81	4.96

SOURCE: Congressional Budget Office, February 1988 projections.

NOTES: The world soybean trade year begins in October; for example, the 1988 trade year will run from October 1988 through September 1989.

European Community trade excludes trade within the EC.

GLOSSARY

Acreage Reduction Program (ARP). A program in which producers agree not to plant some portion of their crop acreage base in the supported crop. Participation is voluntary and unpaid, but producers must participate in order to receive deficiency payments and other program benefits.

Base Acreage. Acreage that would "normally" be planted to a crop. The crop acreage base is calculated as the average of acreage planted and considered planted to the crop during the past five years and is adjusted each year. Acreage that is considered planted acreage includes land idled under government programs, and land that could not be planted because of natural disaster.

Commodity Credit Corporation (CCC). A wholly-owned government corporation created in 1933 to stabilize and support farm income and prices. Most of the activities of the corporation are carried out by the Agricultural Conservation and Stabilization Service of the U.S. Department of Agriculture. CCC activities are financed through borrowings from the U.S. Treasury and appropriations made to reimburse it for losses realized in its operations.

Conservation Reserve Program (CRP). A long-term land retirement program. Landowners receive annual rental payments and assistance in putting an approved vegetative cover on the land in exchange for agreeing to devote the land to conserving uses during the 10-year term of the contract.

Crop Years or Marketing Years. The 12-month period beginning around harvest time, during which a crop is marketed. The wheat crop year begins in June, the rice and cotton crop year in August, and the corn and soybean crop year in September. The crop year is identified by the calendar year in which the crop is harvested. The 1988 wheat crop, for example, is harvested during calendar year 1988, even though most of it was planted during the fall of 1987. The 1988 wheat crop year, therefore, extends from June 1988 through May 1989.

The dairy marketing year coincides with the fiscal year and is identified similarly--the 1988 dairy marketing year extends from October 1987 through September 1988.

Deficiency Payment. A direct payment made to participating producers when the average market price falls below the target price for the crop. The total deficiency payment, which can be paid in a combination of generic commodity certificates and cash, equals the product of the producer's planted acres, program yield, and the deficiency payment rate. Generally, the deficiency payment rate equals the difference between the target price and the greater of the market price and the nonrecourse loan rate.

Several types of deficiency payments are made. *Advance deficiency payments* are made when producers sign up for a program (usually prior to planting) and are up to 50 percent of the estimated total deficiency payment. *Regular deficiency payments* are made roughly midway into the marketing year--after five months of price information has been reported for wheat, feed grains, and rice and after the preceding calendar year's price is known for cotton. The so-called *"Findley" deficiency payments* are final payments in wheat and feed grains that are made after the average price for the entire marketing year is known. The regular deficiency payment rate is the difference between the target price and the greater of the five-month price (or calendar year price in cotton) and the basic nonrecourse loan rate. The Findley deficiency payment rate is the amount by which the basic loan rate exceeds the higher of the season average market price and the adjusted loan rate.

Findley deficiency payments are not subject to the payments limitation that applies to other deficiency and diversion payments.

Export Enhancement Program (EEP). A program offering subsidies, in the form of generic commodity certificates, to allow U.S. agricultural commodities--mostly wheat--to be sold to certain foreign purchasers at prices below U.S. market prices. The program was designed primarily to compete directly with European Community subsidized grain sales.

Farmer-Owned Reserve (FOR). A storage program designed to ensure adequate stock levels to dampen sharp price movements in wheat and feed grains. Farmers receive extended nonrecourse loans and place their grain in storage, usually on their own farms. The CCC makes annual storage payments. Farmers can remove their grain from storage when market prices reach specific "release prices" or grain can be exchanged for generic commodity certificates.

Findley Deficiency Payments. *See* Deficiency Payments.

Generic Commodity Certificates. Negotiable, dollar-denominated certificates received by CCC program participants in place of cash payments. Generic certificates can be used to redeem outstanding nonrecourse loans, exchanged for CCC-owned stocks, or, in some cases, exchanged for cash.

Marketing Loan Program. A program in which a producer may repay a nonrecourse commodity loan at a per-unit rate that is lower than the rate used to compute the value of the loan when granted. For example, a rice grower can place one hundredweight (cwt) of rice under loan and receive the nonrecourse loan rate of $6.80. If the world market price, adjusted to the farm level, were less than $6.80 per cwt, say $5.00, then the producer could satisfy the terms of the loan and regain clear title to his crop by paying $5.00 to the CCC. Marketing loans protect farmer returns while reducing or eliminating the price supporting function of the nonrecourse loan program.

Marketing Years. *See* Crop Years.

Nonrecourse Loans--Loans offered to producers participating in CCC programs for wheat, feed grains, soybeans, cotton, rice, and honey. The producer's crop is pledged as collateral; the total amount of the loan equals the amount of crop pledged times the *nonrecourse loan rate*. Producers can repay their loans with cash or, effectively, with generic commodity certificates, or they can forfeit the collateral to the CCC. The *basic loan rate* is largely specified in the law. The *adjusted loan rate* in wheat and feed grains is the final rate used and may be below the basic rate. The Secretary of Agriculture may set the adjusted rate up to 20 percent below the basic rate.

Paid Land Diversion Program (PLD). Similar to an acreage reduction program, except that participants are paid for the land removed from production of the program crop. Participation is not mandatory to receive deficiency payments and other program benefits.

Payments Limitation. The limitation on the annual amount of farm program payments (excluding loans) that can be received by any individual. The current limitation is $50,000 per "person." A "person" can be an individual or a corporation. An individual can receive up to $100,00 by receiving $50,000 as an individual and $25,000 each as a 50 percent shareholder in a maximum of two corporate entities. This maximum can be achieved only by operators of relatively large farms who are actively engaged in farming and have organized their farm businesses to maximize benefits. Marketing loan benefits and deficiency payments made as a result of lowering the loan rate below the basic loan rate (Findley payments) are not subject to the limitation. A separate $50,000 limit applies to conservation reserve program rental payments.

Posted County Price (PCP). A price used to convert the dollar-denominated generic certificates into quantities of commodity. PCP's are set for each county based on actual prices in certain major grain markets, such as Kansas City, Portland, and Chicago.

Program Yield. A yield figure assigned to each farm used to calculate program payments. Current program yields are calculated as the average of program yields during 1981 to 1985 with the high and low years removed.

Release Price. *See* Farmer-Owned Reserve.

Target Price. A price level established by law used to calculate deficiency payments for wheat, feed grains, cotton, and rice.

50/92 and 0/92. Provisions in the farm law allowing producers to receive 92 percent of their deficiency payments even though they plant as little as 50 percent of the acreage permitted to be planted in the crop program (in 50/92) or even though they do not plant any of the program crop (in 0/92).

**CONGRESSIONAL
BUDGET OFFICE**
Second and D Streets, S.W.
Washington, D.C. 20515

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

FIRST-CLASS MAIL
POSTAGE & FEES PAID
C.B.O.
WASHINGTON, D.C.
PERMIT No. G-70